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# California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — July 1, 1909 — San Francisco


# Alfalfa Enriches the Soil and the Farmer

Up to their Eyes in Alfalfa in Hanford, Kings County.

THE original home of alfalfa appears to have been near central Asia, but from there it has been carried to practically every part of the world where agricultural pursuits are important. It is now one of the staple forage crops of every continent of the Old World. The name "alfalfa" is of Arabic origin and means "best fodder." The southern European name of "lucern" was formerly applied to the plant in the eastern part of the United States and in Utah, but this name has practically given way to the name "alfalfa," under which it was introduced by the Spaniards.

Making Alfalfa on the State Farm at Davis.

The history of alfalfa in the Eastern States runs back for at least two centuries, as the colonists made repeated attempts to establish it. Under the name of "lucern" it was introduced into England about 1650. The attempts on the part of the American colonists to establish it were unsuccessful. The limestone region of central New York probably constitutes the area of its longest continued culture in any section of the East. In South Carolina there is a field reported to be seventy-five years old.

***The streets of Kerman congested by loads of alfalfa hay waiting to unload at the mill. When photo was taken 40 loads were waiting***

# The Dairyman's Paradise

Say you! Mr. California Dairyman, are you living in a locality where it is impossible to pasture your cows during the winter months; are you living in a locality where a shortage of water makes it impossible to have pasture for your cows during the summer season?

Both of these difficulties can he overcome hy moving to the

## Kerman Tract

where there is an ahsolute guarantee of summer water and where stock can be pastured all winter without injury to the land or alfalfa roots.

In addition to these advantages the

## Kerman Tract

offers you the best market in the State for your product. The new creamery to be erected this season will handle your cream and pay you a higher price for butterfat than you can possibly realize by making your own hutter, or shipping your cream. The close proximity to the San Francisco market, where it is almost impossible to supply the demand for sweet cream, makes this a fact and not something to he realized.

## Alfalfa--Key to the Situation

On the **Kerman Tract** eight tons of hay can he grown per acre every year when the alfalfa has been firmly estahlished. The alfalfa mill at Kerman supplies a steady and constant market for all the hay the farmer can grow and not needed for his own use.

Ten acres of well estahlished alfalfa will supply pasturage for the year round for 15 cows, and hy supplementing the pasture with pie pumpkins and cow peas grown in between the rows in the young peach orchard, more cows can be kept on ten acres.

## Ideal Dairy Conditions

On the **Kerman Tract** more ideal conditions prevail for dairying than at any other point on the Coast. Considering the advantages of soil, water and market, land is dirt cheap—cheaper than it will ever he again, and it is easily possihle for the dairymen to net $75.00 per cow every year.

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For prices, terms and other information, either write to

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## Kerman, California

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**Fresno Irrigated Farms Co.,**
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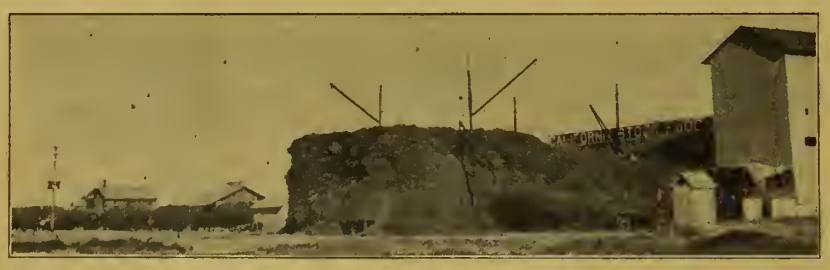
**Dodd & Neu,** 520 San Pablo Ave., Oakland, Cal.

**H. J. Young,** 222 Globe Building, Seattle, Wash.



***Unloading alfalfa hay at the receiving platform of the Kerman alfalfa mill***

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268 East Market St., San Francisco, Cal.

# California Cultivator

Vol. XXXIII—No. 1 Los Angeles, California, Thursday, July 1, 1909 Subscription $1 a Year


# Practical Methods in Alfalfa Growing

## Letters from Growers Who Know With Many Suggestions of Value

"THERE are some silent subsoilers that do their work with ease, and in their way, more effectually than any team or plow ever hitched. The clover plant is righteously famed as one of these, but alfalfa is its superior. Its roots work Sunday as well as Saturday, night and day; they strike five, ten, fifteen or twenty feet deep, making innumerable perforations, while storing up nitrogen, and when these roots decay they leave not only a generous supply of fertility for any desired crop, but millions of openings into which the air and rain of heaven find their way, and help to constitute an unfailing reservoir of wealth, upon which the husbandman can draw with little fear of protest or overdrafts. Its long branching roots penetrate far down, push and crowd the earth this way and that, and thus constitute a gigantic subsoiler. These become an immense magazine of fertility. As soon as cut, they begin to decay and liberate the vast reservoir of fertilizing matter below the plow, to be drawn upon by other crops for years to come."

The above quotation is from Coburn's "Book Of Alfalfa" and shows an easterner's appreciation of that which California has appreciated for years. In fact, the wonderful plant is becoming more and more a staple wherever its remarkable capacity for bringing from the soil the protein so much needed by all stock has been shown.

There has been much discussion as to who deserves credit for the first introduction of alfalfa to the Pacific Coast, but the date of its introduction is so far back that no definite or at least absolute information can be given along this line. But going still farther back into its history, it has been ascertained that it was carried by the Persians into Greece at the time of the invasion of Xerxes in 490 B. C. It was later utilized by the Romans and taken to Rome in 146 B. C. Before the Middle Ages it had become fairly well spread over Europe. It was probably brought to this coast from Spain, though legend states that it came here from Chile in 1853 or 1854.

It is an exceedingly long lived plant. Fields are known now to exist which were planted fifty years ago, and some people maintain that there are fields more than a hundred years old.

Alfalfa is the more common name, but it passes as lucerne, French lucerne, Chilean clover, Mexican clover, Brazilian clover, and in fact, is known by many other names according to locality.

### Varieties.

The one principal variety grown in this country is the so-called ordinary alfalfa or Chilean clover, which is, to be more exact, medicago sativa. In recent years through the efforts of the Department of Agriculture at Washington other varieties have been introduced. That known as Turkestan has had extensive trial in this state, especially at Tulare. The Cultivator recently published an extract from the letter of a subscriver in which he referred to his experience with Turkestan, five acres of which he had planted in the midst of a hundred acres of the common variety. The Turkestan in no sense came up to the standard of the better known variety of alfalfa. Reports have come, however, from sections where drouth is persistent and the supply of water for irrigation slender, that Turkestan has proved more valuable than the Chilean. It will probably show a more favorable comparison in the colder northwest than the warmer sections of California.

More recently there has been tried in California, and so far as reports have yet come in, proven wonderfully successful, a new variety introduced by the Department of Agriculture and known as Arabian alfalfa. This has proven a better winter bearer and fully as good a summer bearer as the Chilean. A serious objection to it, so far as reports have been made, is that it has not seeded in this state. Whether this is due to the plant not yet being of proper age, or whether our climatic conditions are such that their effect must be overcome, remains yet to be determined. One of the largest fields of this variety is that of Mr. Washington Wilson at Holtville. He has five acres in one field. It did not seed last year and has not yet this year, but its bearing capacity and its quality are very highly spoken of by Mr. Wilson.

Alfalfa is a legume and consequently a nitrogen gatherer, and, as shown in the opening quotation in this article, is a wonderful soil enricher, and this effect on the soil is usually of great importance to the grower. Its value as a dairy feed has long been well known, but even its warmest friends were hardly prepared to agree with the statement that a ton of alfalfa was of far greater value as a dairy food than a ton of bran, for the statement has been made that a ton of alfalfa leaves contains as much protein as 2800 pounds of bran.

It is proper that the culture of such a valuable plant should be in every way increased, and to the end that we might gather together as valuable a fund of information from practical growers as possible, the Cultivator recently sent to producers of alfalfa in various sections of the country the following series of questions, with the aim of learning the best methods of preparing fields for planting, harvesting the crop, etc. We believe that the information we have thus obtained will prove of utmost value.

### The Questions.

1. Do you grow the common, well known variety (medicago sativa) or have you tried "Turkestan" or "Arabian" varieties?

2. (a) Do you irrigate? (b) How high do you build your checks, or rather banks between checks? (c) How deep over ground do you prefer to have water stand?

3. (a) What plowing or harrowing do you give to the land to get it ready for planting? (b) Do you inoculate seed or ground with bacteria?

4. (a) What time of year is best for seeding, and how much seed per acre do you sow? (b) Do you drill or broad cast? (c) Do you screen your seed, or endeavor to exclude weed or dodder seed. (d) Do you plant nurse crop?

5. (a) After once established do you disk? How often? (b) Have you ever applied lime, gypsum or fertilizer? With what results?

6. Is the first cutting of spring mixed with foxtail. If so, do you handle in silo, or how?

7. How many cuttings do you make per year?

8. (a) Do you sell hay or feed it on the place? (b) Do you allow stock to pasture at any time of year? (c) Is your stock troubled with bloat?

9. What pests do you have to contend with, and how do you handle them?

10. Do you rotate or do you allow alfalfa to occupy same field for years?

11. Have you grown alfalfa between orchard trees? Does it affect productiveness?

12. (a) In harvesting how do you judge proper time for cutting? (b) How long after mowing do you rake, cock and stack? (c) Have you ever used caps of cloth for the cocks?

### Guy H. Miller, Modesto, Stanislaus County.

1. I grow the common variety; have never tried any other.

2. I irrigate. I consider sixteen to eighteen inches about the right height for levees between checks, and have them well rounded. I let water stand about two inches deep on the higher places. It will, of course, be deeper on other parts, as it is almost impossible to have checks perfectly level after they have settled. This is for rather sandy soil where the water does not stand for any length of time.

3. After leveling which is the most tedious and important part of the work, I plow the land deeply, then harrow well, till surface is well pulverized, before seeding. I have never inoculated either seed or land.

4. I sow fifteen pounds of seed per acre. Have sown more without getting any better stand. I have this season sown on December 23rd, February 2nd, February 17th and the last of February. Have succeeded in getting good stands with each sowing. One of my neighbors has sown later than February and has a good stand. I consider it very important to sow before all the rains are over so that the stand is well up before it is necessary to irrigate. Have not had any success in irrigating to get the seed up. I sow broadcast with a Cahoon seed-sower. I have never screened seed, but buy the best and cleanest seed obtainable. I do not plant any nurse crop. I think the young alfalfa needs all the moisture from the spring rains, also sunlight and air.

5. I have never disked; have cultivated with a spring-tooth cultivator, which did not seem to be of much benefit. I expect to try disking next winter to loosen up the surface of the ground. I use gypsum fertilizer, about 200 pounds per acre per year. It materially increases the crop and is not very expensive.

6. I have considerable foxtail in the first cutting. I cut before the foxtail is mature and feed it up at once.

7. The number of cuttings depends on the season. In dry years like last year the water supply was short after July and four good crops was all I cut. Year before last six crops were cut, and I expect to cut five or six crops this year.

8. I feed all the hay grown on the place. I do not pasture my alfalfa field. I think it injurious to a good stand. At times have some trouble with bloat when stock is fed green hay, or when fed hay which has been cured in a north wind and never gone through any sweat.

9. I have a field badly infested with dodder. This is the second season I have owned it. I think about the only way to get rid of it will be

(Continued on Page 12.)

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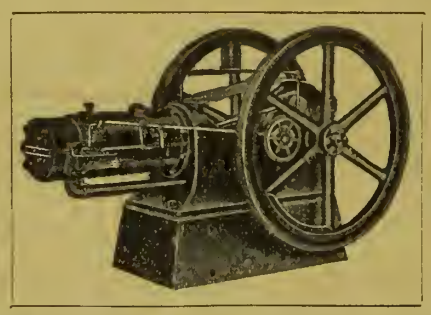

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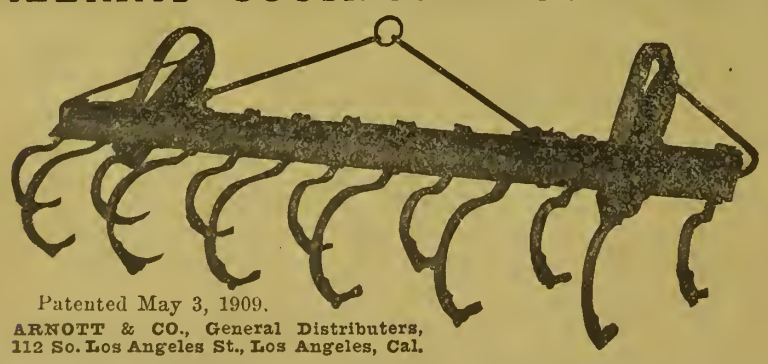

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# With the Citrus Growers

## FROST PREVENTION.

THE present weather is not conducive to consideration of frost protection. But all too soon that season will arrive and many citrus growers will find themselves in the position of the Irishman who didn't need to fix his roof when it was not raining and of course couldn't when it did rain.

Merely as a reminder in season, or in advance of season, we give the following observations by Prof. J. Warren Smith and printed by the Ohio Agricultural College:

**Conditions Favorable for Frost Formation.**

1. Clear skies. 2. Dry air. 3. Nearly still air.

All bodies are radiating heat all of the time. The surface of the earth and objects upon it are receiving heat from the sun, when it is shining brightly, faster than they are losing it by radiation; so the surface grows warmer until just after midday. The taking in of this heat is called absorption; and a body is a good absorber of heat that warms up quickly in the sunshine.

When bodies on the surface of the earth are loosing heat by radiation faster than they are gaining it by absorption, they are growing colder. Thus, at night the heat absorbed during the day is lost by radiation and the surface of the ground and the objects upon it become colder than the air. Good absorbers of heat are also good radiators, so that dark colored soil will sometimes be from 6 degrees to 14 degrees colder than a nearby light colored soil. The temperature over a dark colored lawn has been found to be 1½ degrees lower than over a light colored lawn.

Grass and growing crops loose heat rapidly at night by radiation and can gain little from the ground by conduction. Hence the temperature in grass six inches high has been found to be 10 degrees lower than over bare ground, and in clover two and one-half inches high 4 degrees lower.

Frost is usually seen upon a board walk or roof of a low shed first, be the leaves of standing crops lose ly by radiation and gain little from the earth by conduction.

When the surface of the earth and the leaves of standing crops loose heat by radiation, the air directly in contact with them gives up some of its heat by conduction, but this cooling extends up only a little way because the air is a poor conductor of heat. Hence the coldest air in a clear still night is near the surface of the ground. The coldest air will always be in the lowest places at such times, because this cooled air, being heavier than warm air, will slowly slide down into the valleys and hollows.

In protecting tender plants from frost, then, one has simply to keep in mind the conditions which favor frost damage and try to overcome these conditions.

**Methods of Protection Against Frost.**

1. Diminishing the radiation of heat.
2. Raising the dew point of the air.
3. Adding heat to the air.
4. Mixing the air so as to prevent its forming in layers.
5. Draining the cold air away from the section that needs protection.
6. The location of tender plants on the side of a slope and not in the low places.

Any covering will prevent the radiation of heat. Glass screens are used in greenhouses and cold frames. Cloth screens are stretched over large fields in France. Along the lower delta of the Mississippi the owners of valuable orange groves actually house in acres of the groves.

View of Redlands from One of its Orange Groves.

Strawberries are very successfully protected by turning the mulch up over the plants and cabbages by throwing a handful of hay over them. When it is cloudy, very little heat is lost by radiation; therefore, crops have been successfully protected by covering them with a smoke or a smudge.

If a damp material is burned, the smoke and cloud of moisture diminishes the radiation of heat, the moisture raises the dew point of the air, the fire adds heat to the air, and the air is mixed, so that the colder air cannot lie still near the earth.

A damp smudge may be made by burning numerous small piles of damp straw and stable manure. This material may be packed into old grain sacks and distributed through the orchards or garden in rows about 100 feet apart and about fifty feet apart in the rows. When it is found that the temperature is getting down near the freezing point, a small amount of oil should be poured on to every third or fourth sack and then set on fire. The sacks will burn with a smoldering fire for several hours.

An even better plan is to build a smudge fire upon some low wagon or sled, so that it can be drawn about through the orchard where needed. The simplest plan is to stretch wire netting from the four stakes of the

body, pile on damp straw or strawy manure, and then build a fire underneath. Set a barrel of water on the sled so that the straw can be kept wet.

As the sled is drawn along the vapor and smoke settle to the rear and fall close to the ground in a long white trail. One man can protect about ten acres in this way, and the expense of the sled need not be over ten dollars.

In some cases it has been found practicable to add dry heat to the air by burning coal in wire baskets. From twenty to forty of these baskets, costing from seven to ten cents each, are scattered over each acre, filled with coal and burned as needed. It has been found possible to raise the temperature of the air from three to five degrees throughout an orchard in this way and thus save damage by frost. The coal can be merely piled up in many small piles.

Gathering Oranges in Redlands.

### ASPIDIOTUS HEDERAE.

This scale is also known as Ivy Scale, Oleander Scale, Lemon Peel Scale. Perhaps there is no other scale in this locality which utilizes more plants for food than this one.

Courtesy Claremont Pomological Club.

From the various names given it we may conclude as to the principal host plants. It is found very thick on English Ivy. There are few such plants in this district which are not infested with it. So to many it is known as Ivy Scale. But on oleander it seems to thrive best. Not infrequently we find it so thick as to completely cover the entire surface of the leaf. It is found on many of the domesticated plants in the gardens and seems to feed on almost anything. In this country it has done little or no damage because as yet it has not taken to the citrus trees. However, this is not the case in all other localities. The illustration shows this scale infesting a lemon. This and many other specimens were obtained from P. E. Smith, Horticultural Commissioner of Ventura County. The picture tells the story. There it is known as the Lemon Peel Scale, and is a very bad pest. Perhaps it may never be so here, but who knows? It takes a long time to reveal all the characteristics of some of the scales. In new localities they may struggle along for years before they become acclimatized and do any damage. Because this insect has done no harm here to the citrus industry in the past is no proof that it will never do so. Anyway its record in other places stamps it as an unwelcome visitor.—E. O. Essig in Pomona Journal of Entomology.

### THE DISTRIBUTION OF LEMON SHIPMENTS.

The lemon is shipped from California every month of the year. The distribution is regulated somewhat by holding the fruit picked in winter and spring in common storage for several weeks or months before shipment. The lemon tree when handled properly is ever bearing, a tree containing at any time fruit in all stages of development from the blossom to the ripe lemon. The fruit ripens most abundantly during the late fall, winter, and spring, the heaviest harvest occurring from February to June in the coast region and beginning in November and December in the inland regions. It is the aim of the lemon grower to have the harvest as heavy as possible in the summer, when the fruit is in greatest demand, and he endeavors to influence the season of bearing to some extent by pruning and by irrigation, though not to the extent attempted by foreign lemon growers. The most profitable months in the lemon market are during hot weather from May to September, the condition of the market at any time during this period depending on the temperature at the point of consumption and the supply of imported fruit. The shipments from California are largest from March to July, about 60 per cent of the crop going forward during that period. The shipments in the last few years have been greatest in the months of May, June, and July. The fruit shipped in the spring and summer may include winter and spring lemons that have been stored, as well as the fruit that is picked during the spring and summer months.—G. Harold Powell in Year Book of Agriculture.


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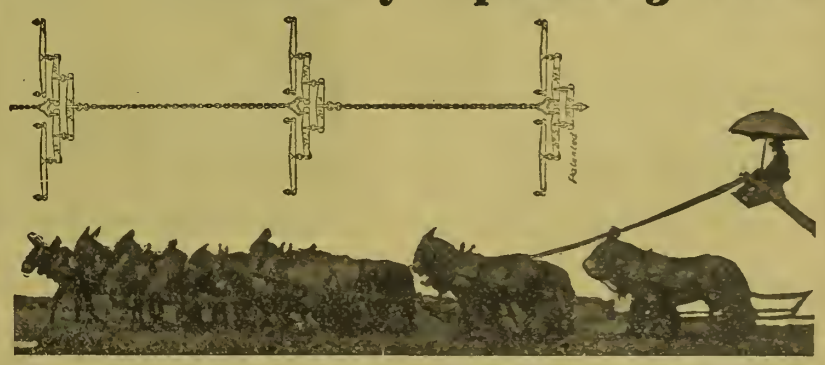

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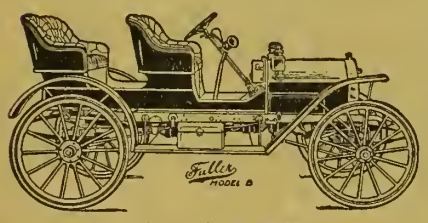


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By J. W. Mills

## CULTIVATING ORCHARDS.

CONSERVING moisture to make available the fertility of the soil is the principal reason why a mulch of some kind is required in the orchard. In the commercial orchards of both arid and semi-arid sections, the dust mulch is the most practical. After the spring plowing our leading apple growers use cultivators and harrows.

The water in the soil rises by capillary attraction. A compact soil has extending through it, minute spaces formed by the partial contact of its particles which facilitates the rise of water from moist layers below, in accordance with the same principle which causes the water to rise in a capillary tube. This movement is constantly going on in a firm soil, and as fast as the top layer is robbed of its moisture by evaporation, the water rises from below and it too is evaporated. During a long dry summer, the water rises and is evaporated from a depth of several feet in some soils, and the earth beneath the baking sun heat becomes "dry as a brick." Pulverization of the part of the soil which forms the mulch must be so complete that the particles are separated and capillarity destroyed, and further, that the free access of air to the lower point where capillarity exists, must be prevented. This is accomplished by the fine loose earth which acts as a mulch. When this is attained, only the moisture in the upper surface which comes in immediate contact with the air is evaporated and the balance is retained for the use of the plant. Plants or trees, growing then in well cultivated soil have the water in the lower soil held for their use, and as fast as they use it the supply is replaced through the firm soil below, which, evaporation being stopped, remains moist and permeable by roots which extend freely, seeking the nourishment they need, according to Prof. E. J. Wickson.

By actual experimental test, a soil well cultivated will hold nearly 30 per cent. more moisture than will the same kind of soil uncultivated. As the moisture under favorable conditions is largely the measure of the growth and the crop, it is plain that a mulch of some kind is imperative.

By the use of the harrows mentioned, or other shallow cutting tools, the dust mulch is in most cases cheaply made and maintained and therefore quite generally adopted.

There are several cases in both arid and humid sections where excellent results are obtained with the straw or hay mulch. In one instance where the rainfall is less than ten inches, fine four-tier Spitzenberg apples were grown where the ground was covered with straw mulch about five inches deep. In the Coast country, good results are obtained by growing a crop of clover or vetch producing at the rate of about 3 tons per acre, then cut during the last of June or the early part of July and spread to form the cover or mulch which serves practically the same purpose as does the dust mulch, with the additional benefit of the added nitrogen which these legumes fix in the soil, and subsequent fertility gained from the decayed vegetable matter. The straw or grass mulched orchards are usually confined to the smaller tracts or to the hillside locations, and due caution must be observed with regard to danger from fire, until the fall rains appear.

Where the mulch is kept up by harrowing it is necessary to go over the ground frequently. Set the tool to cut not deeper than three inches and cover the ground as rapidly as possible. Vetch or some other crop may be seeded in with the last cultivation and plowed under to enrich the ground the following spring.—N. W. Horticulturist.

Irrigation in Rich Bottom Lands of Kern County. The County has Hundreds of Such Acres.
Courtesy Bakersfield Echo.

## NUTS AND THEIR USES AS FOOD.

THE constantly increasing consumption of nuts throughout the United States augurs well for a better appreciation of their food value. The time when nuts were considered merely as a luxury, or as something to be eaten out of hand at odd times, is rapidly passing away. In earlier days the native hickories, butternuts, walnuts, chestnuts, pecans, and many other nuts found in the United States were to be had in country regions for the gathering and were of no commercial importance. On the other hand, the English walnuts (to give them their most common name), almonds, cocoanuts, etc., brought from other countries, were relatively expensive luxuries.

Some nuts, like the native hazelnut and beechnut, still have practically no commercial value and, though palatable, are almost never offered for sale, doubtless because they are so small and difficult to gather in quantity. The chinquapin, a small nut allied to the chestnut, finds a limited sale in southern cities, but is doubtless seldom if ever seen in other markets. In general, however, conditions have changed and our principal native nuts are now staple market commodities and bring good prices. At the same time, owing to changes in market conditions, and to the growing of foreign nuts in quantity in this country, the price of the imported nuts has dropped so that they are well within the reach of the majority.

From available statistics it appears that in 1905 the total quantity of almonds, cocoanuts, Brazil nuts, filberts, walnuts, and other nuts, shelled and unshelled, imported into the United Sates was, in round numbers, 86,238,000 pounds, with a value of $6,138,000. In 1905 the total almond crop in California reached 4,200,000 pounds, and the walnut crop, 12,800,000 pounds. The richest yield of peanuts was reported from the Southern States, chiefly Virginia, Georgia, and Tennessee, and amounted to 225,000,000 pounds.

The total quantity of home-grown

nuts, including both native and introduced varieties, must far exceed the quantities imported, but in the nature of the case no estimates of the total quantities gathered and eaten are procurable. When we consider the constantly increasing demand for nuts and the large quantity which we import from other countries, the possibilities of the industry for the American nut grower are obvious. As the use of nuts has increased, many persons have turned their attention to the growing of native and foreign nuts on a commercial scale. This work has been forwarded by the Department of Agriculture, through the Bureau of Plant Industry, and by the California, Florida, Michigan, and other agricultural experiment stations. With nuts, as with other crops, it has been found that, by selection and breeding, improved varieties are obtainable, of larger size, better flavor, thinner shells, or other desirable characteristics.

The increased demand for nuts is due in the main to two causes, namely, a better appreciation of their appetizing qualities and the numerous ways in which they form a palatable addition to the diet of the average family, and, secondly, to their use by the vegetarians and persons of similar belief—a group small in proportion to the total population, but still fairly large numerically—who use nuts, and more particularly the peanut, as a substitute for meat and other nitrogenous and fatty foods.

Even a cursory examination of the journals devoted to cookery and other branches of home economics and of the various books which are published on the subject will show the fairly general use of nuts for making soups, for stuffing poultry, for nut butters, nut salads, cakes, salted nuts, and other dishes, and indeed several volumes devoted exclusively to nut cookery have been published.

Many special nut foods, such as malted nuts, meat substitutes, etc., have been devised and extensively advertised by the manufacturers for general use in the diet and for the special needs of vegetarians and fruitarians. It is said that some of these American nut products contain soy beans, but apparently the peanut plays a very important part in their composition. In either case, since the peanut, like the soy bean, is a legume, these preparations might more properly be compared with the bean cheese and other soy-bean products, so much used in China, Japan, and other eastern countries, than with nuts, as the walnut, almond, or cocoanut.—Prof. M. E. Jaffa of California in Bulletin 332 of Department of Agriculture.

## PACKING APPLES IN WASHINGTON.

Hood River district, which really includes the White Salmon Valley, and Underwood districts, just across the Columbia, uses two sizes of boxes or rather two boxes of different dimensions but containing practically the same amount of fruit. One, known as the "special" or "California" box, measures 10 by 11 by 20 inches inside. The other, known as the "standard" or "Oregon" box, measures 10½ by 11½ by 18¼ inches inside. Each contains a little more than a bushel, (2,150.4 cubic inches). With these two boxes we pack 17 different sizes of apples for commercial purposes, so that each and every apple in each and every box arrives upon the market in absolutely perfect condition.

Ranging from the largest to the smallest these sizes run 45, 54, 64, 72, 80, 88, 96, 104, 112, 120, 128, 144, 150, 165, 175, 185 and 200 apples to the box. Some of these sizes can be packed in either box, some go only in one box. Some sizes are called "diagonal," the so-called orange pack; some "square" or "straight tier" pack. Whatever the size every apple in the box is identical in size with every other apple in that box. The number of apples contained in a box is stamped plainly on the box, each apple being wrapped in paper, a layer of cardboard placed between each layer of apples and the box lined with paper. The buyer receives from 46 to 51 pounds of fruit net, according to the size, the smaller sizes weighing most.

Not every one can become an "expert" packer, but one can learn the principle in a short time and then it is merely a matter of practice. An expert with average apples will put up an average of 60 boxes a day, for which he receives 5 cents per box for 128 size and larger, and 6 cents for sizes smaller than 128. In addition to this he is boarded by the grower.

This is the system that is the standard of perfection of all the apple growing districts in the west. The fact that we receive from 50c to $1.50 per box more than any other district in the world, is alone evidence enough that we lead in this matter. Again, at the National Apple show held at Spokane this year, the Underwood Apple Growers' Union won first premium for "Best Commercial Pack" with 39 entries. So we are not writing at random in this matter. —Green's Fruit Grower.

## THE CARE OF TREES.

Every man should be his own tree doctor. If properly trained he has been busy all summer removing suckers from the trees, fighting fungus and discouraging insects. When the leaves are all off he goes over the plantation, diagnosing each tree, shrub and bush. He will find some borers not yet killed, and these should be thoroughly eradicated from his quinces and peaches before winter sets in. Use a flexible wire and a sharp knife; and when the larvae are killed pile ashes freely around the tree . He will probably find in his currant and berry fields more or less bushes that cultivation has loosened in the soil. The ground in such case should be thoroughly packed.—Oregon Agriculturist.

An easy method of ascertaining whether one's land contains too great a degree of acidity, is to place a piece of ordinary blue litmus paper on a sample of moist soil; if the paper rapidly turns a vivid pink, it may safely be assumed that the land requires a dressing of lime. If the change of color is effected slowly, it is an indication that, while lime is needed, a light dressing will suffice. Small books of blue litmus paper may be procured from any chemist.

Los Alamitos Sugar Company continues the price of $1.25 per ton on sugar beet pulp till July 15th.


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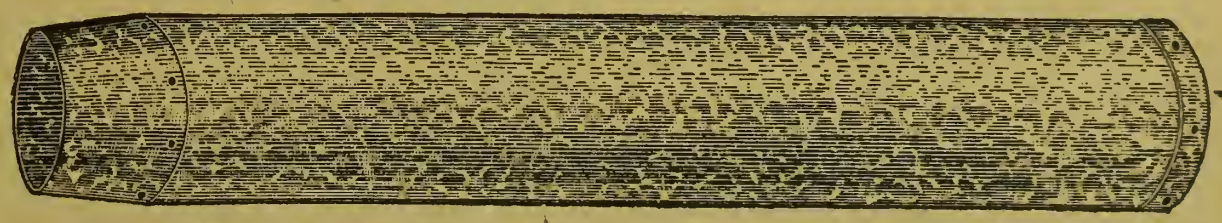

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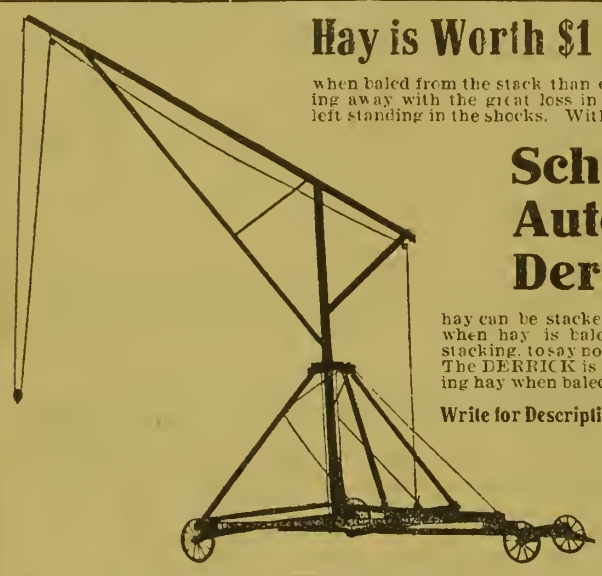

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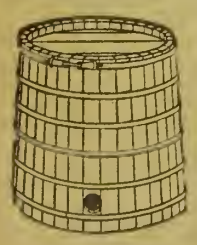

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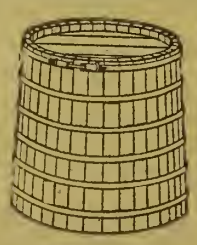

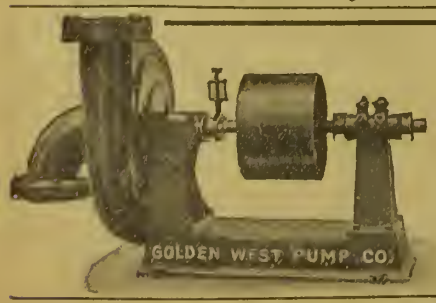


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## ALFALFA.

THE first alfalfa field I ever examined with care was a small piece of ten acres on the home ranch. I came from Oakland to see the grain harvested the first year after the ranch had been bought. The beauty of the deep green field covered with purple bloom was attractive after looking over the glaring yellow of the grain lands. As I waded through its cool depths the impression of the value of the crop came to me, and with each year's experience this opinion is strengthened. On that warm July morning twenty odd years ago, after picking a boquet of the fresh cool alfalfa, I turned toward the house, passing through the corral where two cows were tethered eating dry grain hay. Their longing looks made me pause and divide the alfalfa posy between them.

At lunch I spoke of their eagerness for alfalfa only to see the tenant's wife look alarmed and say to her husband "O, Will, give the milk tonight to the pigs, I won't have the disgusting stuff in the house for the cows have had green alfalfa!" During the week I watched the way the milk and the cows were cared for and made up my mind that there were other things as well as alfalfa that made the butter bad. My mind was made up to try the good old ways of my Pennsylvania aunts, of cleanliness and care of cream, milk pans, and cows. My mind turned back to childhood days, brought other thoughts and dreams of the merry band of children playing at being King Arthur and his loyal knights, mounted on hobby horses prancing away over the daisy filled meadows in most gallant array. Surely the quest of the alfalfa was worthy of being followed, and a new purpose was born within my mind.

As soon as the ranch came into my full possession the struggle to over come alfalfa flavor began. I fed it from the start to all except one cow whose milk was reserved for the family invalid. The hobby horse humped himself to victory the first winter, and alfalfa was found to be the best of butter making food, when the cows were kept in accordance to the simple old rules of careful cleanliness, and all droppings were deodorized in the stables. This was only the beginning, however, for others had to be convinced. Did not the dairymen laugh when I first told it to them? Did not the local grocery men sneer at the idea of alfalfa making butter that could be eaten? A State Fair gold medal, won under heavy competition was the convincing stroke. The score was nearly perfect 98¾, the slight cut was hardly the fault of the butter as it was a little melted around the edges. The therometer stood at something over a hundred when the butter left Fresno at eleven o'clock in the morning and it had an all day trip up to Sacramento without ice in an ordinary express car.

Corn Also.

The Eastern agricultural press in the last few years has discovered alfalfa; now the agricultural press of of California should discover corn—Indian corn—for the two perfect the ration for domestic animals. Wherever alfalfa grows well, corn will grow fully as well. The needs of the two plants are the same; heat, moisture, and lime in the soil. Nature, that wonderful mother, supplies in the two all that cows and swine need for perfect development. The feeding of green alfalfa by grazing, as well as alfalfa hay, to hogs will make them grow rapidly into a hundred to a hundred and fifty pounds weight. At this size we have found it profitable to dress or to sell them as the additional weight above that is more costly per pound.

The use of bran, except for invalid cows and as a mash for tired horses, can be practically done away with, if there is good leafy alfalfa hay cut into inch lengths to mix with the heavy grain ration. The difference in the feeding value of alfalfa hay and bran is in a little inexpensive fat or carbohydrates, merely heat making materials. These can be supplied more cheaply by corn than by bran. Alfalfa hay stands nearly at the head of hay having most available nutriments. Vetch hay is only a trifle richer in protein, while it is again considerably richer in carbohydrates that are not particularly needed in a mild climate. What may be expected from an ordinary stand of alfalfa? I do not know on the red soil of the home ranch, but from a thirty-five acre piece of white ash land that was rented out, I received one-third the hay for five years. The one-third varied yearly from 109 tons for the lowest to 130 tons for the highest returns received by me. I do not fancy I received more than my share at any time.

The original varieties are adding new value to the alfalfa fields by lengthening out the seasons. The Turkestan promises at the Tulare station to give a larger winter growth than the present Chilean varieties grown. It should be easily within reach to find or make a variety that will grow at the same temperature that field peas make a crop. The common or Chilean variety can be trained or selected to have a shorter tap root and make a more branching root growth for the shallow soils. This at present, is one of the lacks of an alfalfa that will make a good stand on shallow soil. The Arabian seems to be one of the best for hay, as it has fine leaves and fine stalks but as it has not proven as hardy as the other varieties in the experiments made at the Colorado station, it should be sown as an experiment only in the colder portions of the great valley.

The yearly use of gypsum at the rate of two hundred pounds to the acre after the spring cutting, and the early winter use of either sifted barn yard manure or bone meal will increase the alfalfa crop greatly. It does this by making it grow more rapidly, and that makes better hay,

**Cream Separators, all sizes, all prices. O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

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for the stems are softer and more leaves are produced. Alfalfa hay must be carefully made. If it is tumbled and tossed around the leaves drop off and the greatest value is lost. There seems to be a great fear of its heating in the mow. If the hay is cut and left in the swath half a day, then raked into cocks and left another half day, hauled in and spread thinly over the top of the mow, it will come into the barn slowly enough not to heat, but be cured soft and hold the finer leaves.

The constant use of the disks, beginning the second year after the alfalfa is planted, and each time resowing the bare spots, will keep the field in good profitable condition. A thick stand will allow the plants to crowd out the poor growing ones and only the thriftiest will be left. When grown in a sparse seeding, the weak plants have a chance to grow, but are never as worthy of surviving as the plants that have to make their own way in competition. Weeds show us the value of a struggle in the strength and vitality they manifest.

The pigs and the cows are surely a winning combination when annexed to a good alfalfa pasture. Vineyards and orchards need the fertilizing elements that the stock affords. When alfalfa is fed, the nitrogen goes back again to the soil to produce more and more fertility. Behold the ceaseless round of Nature—everything fitting in, each little link to make the perfect chain. Drop one link and the chain is broken; weaken one link and the results are waste. Balance the cow and hog fed on alfalfa against the vineyard and orchard and make a farm a complete chain.

Now my hobby horse has galloped his little round and is put away for the everyday work of the ranch.—M. E. Sherman.

## ERADICATING THE CATTLE TICK.

The recent release by the United States Department of Agriculture of several counties previously quarantined on account of the cattle tick is most hopeful and encouraging to those waging war on this pest of the South. That science and hard work are co-operating to combat this terrible handicap to the southern farmer is realized in the releasing of 70,000 square miles of territory since the work was begun in 1906. The cost of the work of getting rid of ticks is insignificant compared to the losses sustained by the farmers and stockmen of the South. These come under the following heads:

Death from Texas or southern cattle fever, in and out of the quarantined district; lower prices paid for southern cattle; impoverishment of the blood caused by the ticks and consequent loss in quality and quantity of beef; greatly reduced milk production; southern breeders being barred from opportunities for sale of their animals in any but quarantined districts except under certain restrictions; expenses incurred yearly by the Federal Government and States to maintain quarantine lines.

The sum total of these losses is variously estimated at from $40,000,000 to $100,000,000 annually, which the southern farmers and stockmen in fourteen States are carrying as a burden because of the presence of the tick. A similar loss in other lines of business or crops would in all probability cause a panic in commercial circles of the states aeffcted.

As a matter of fact the cattle producers of the South have some decided natural advantages over those of the North. A longer warm season permits of greater pasture privileges, and the milder climate causes less feed to be consumed—two factors of great value in the cattle industry. With the tick out of the way the South would afford a fine field for profitable stock raising.

Numerous investigations and experiments have been conducted by which it has been conclusively proved that the cattle tick is the only natural means by which Texas or Southern fever of cattle is transmitted, and that by completely severing the relations between cattle and ticks the pests may be exterminated from any locality. But this means thorough, systematic, and persistent work in destroying ticks. If the citizens of the quarantined area will begin immediately and not permit ticks to mature on their cattle, horses, and mules, the good results to the cattle industry can hardly be calculated. They should urge their State and county authorities to take up systematically the work of tick eradication, that they may secure the co-operation of the Federal authorities and ultimately the removal of quarantine restrictions.

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Now is the time of year that the ever present question pervading the family council is, "Where shall we go, or what shall we do this summer?" The planning and scheming period is now upon us when our thoughts turn from the sordid pursuits of city life; for man hath need of rest and he longs for the simple joys the country yields. We all wish to set aside for awhile the cares and worries of business and visit the Blessed Isles of rest and recreation.

To aid you in selecting a place for your outing or to locate your family for the summer so as to make possible week end trips, the Northwestern Pacific Railroad, the Picturesque Route of California, has issued a book called "Vacation." This book describes the garden spots and playgrounds of California in the counties of Marin, Sonoma, Mendocino, Lake and Humboldt. You can find in this book some place to suit your fancy and your purse, whether it is to fish, hunt, swim, rusticate on a farm, or visit the numerous mineral springs or resorts.

The issue of "Vacation 1909" is now ready for distribution and can be obtained from the Northwestern Pacific Railroad at the Ferry Ticket Office, the Up-town Office 874 Market St. and Room 986 (General Office) Flood Building, San Francisco, Cal.

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A paper on "Imitation Among Animals" by Prof. Robert M. Yerkes, Assistant Professor of Comparative Phychology, Harvard University, in the July Century, has both popular and scientific timeliness. While the psychoiogists who have taken up this subject with scientific precision are cauticus as to final conclusions, their experiments are of a nature to interest the general public, and some of the results already attained are surprising. Nowhere have certain observations been carried on with greater thoroughness than at Harvard.

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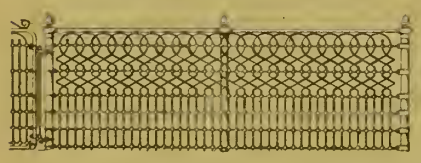

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# Small Fruits and Vegetables

## TRANSPLANTING VEGETABLES.

MOVING plants from one locality to another is more or less of a violent operation. By the process the plant is deprived of quite a number of its feeding roots and for a time is cut off from its water supply; consequently, it is necessary to exercise considerable care with the plant until it again becomes established in the soil. To help insure this an abundant supply of moisture in the soil at all times is essential to keep the plant from wilting and incite it to take hold of the soil quickly. In sections where irrigation is practiced the transplanted plants should be irrigated immediately after setting, and frequently afterwards until danger of their drying out is passed. This can be told by the plants freshening up and starting new leaves. It is also very essential when setting the plants out, to firm the soil well around the roots. This is very important and should not be neglected. Many plants have failed on account of not doing this. Proper firming of the soil helps to exclude the air from the roots and prevents the plants from drying up.

In sections where irrigation is not practiced plants are preferably transplanted during a rainy spell. If this cannot be taken advantage of it will be necessary to water the plants by hand until they are established. When doing this do it thoroughly; a little water is sometimes nearly as bad as none.

In moving the young plants from the seed-bed to the field and until set out they should be protected from the rays of the sun to prevent wilting. This protection can be given by wrapping the roots up in a wet sack or carrying to the field in a bucket or tub with a little water in the bottom to keep the roots moist. When digging the plants out of the seed-bed, use a shovel or spade and avoid breaking off as many roots as possible. It is also better to wet the bed first. If the plants are very tall it will be well to cut off a part of the top. This operation will not hurt the plant and helps to keep it from wilting, as it prevents excessive evaporation of moisture from the plant through the leaves.

Before transplanting, the soil should be well prepared being properly fined and leveled. Plants usually take root more quickly in freshly stirred soil. After the land has been properly prepared, mark off the rows where the plants are to be set. This may be done if it is desired to plant on ridges with a plow, if on the level by a marker. One thing to keep in mind, make the rows straight and the proper distance apart. It never pays to crowd plants. By so doing a crop inferior in quality is liable to be produced. If in doubt about the proper distance to plant, consult a reliable authority or some one who has had experience.

Transplanting can nearly always be successfully done with most plants if the proper care is observed. Some of the things to keep in mind are; dig plants carefully, protect them from the sun after digging until transplanted, supply plenty of water to transplanted plants, set the plants properly in the hole, firm the soil around the roots. It will pay to carefully observe the above points when doing transplanting. Many thousands of plants are lost annually through carelessness in setting and lack of proper care afterward.—J. E. Mundell of New Mexico, College of Agriculture.

A little knowledge of plant life is of great assistance to the gardener. One should know that plants take moisture together with dissolved plant food from the soil. As the smallest roots are the only ones which can absorb moisture it will be seen that the newly transplanted plant must be at a decided disadvantage until new roots are formed. This takes several days, but in the meantime moisture is being given off by the tops all of the time, and wilting results. More water is lost on hot days than during cool weather, and if the loss of moisture is excessive, death may result. The remedy for this condition is to simply cut back the tops of plants when transplanted to correspond to the loss of root system.

Amateur gardeners often make the mistake of planting vegetables too close together. Plants having large foliage such as tomatoes, peas and beans, should be given plenty of room, in order that the sunshine may reach all parts.

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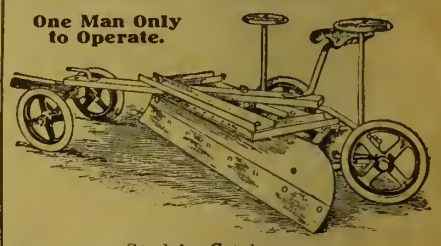

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# The Ornamental Garden

### THE MODERN GLADIOLUS.

EVERYBODY knows the gladiolus—in a way. It has been called "The People's Flower" because the common people can get more satisfaction out of it, without special skill or facilities, than from any other flower. As a cut flower, nothing but the expensive orchid lasts so long and no other flower has such variety and beauty of coloring.

Nevertheless, the modern gladiolus is almost unknown to a large majority of our people, because of the great improvement which has been made in a comparatively short time.

This rapid recent improvement is the more remarkable because the gladiolus has been cultivated for about a hundred years.

There are about 140 species, of which some 15 are of European and west Asian origin, a few have been discovered on the mountains of tropical Africa, but practically all our garden strains are from the south African species, variously hybridized.

I think none of the original species are in cultivation in this country unless, possibly, in botanical gardens, as all those offered for sale are the result of many crosses.

About 15 years ago H. H. Groff, of Ontario, Canada, being dissatisfied with existing strains, set out to build up, by hand crossing and selection, a strain which should have large and handsome flowers, "substance" or body of petals and especially vigor of constitution.

Many of the then existing varieties were "in-bred" and were weak. Some named sorts were selling at $1 to $3 a bulb and yet were very unproductive. He has used all strains available, including the whole of Burbank's California, and has produced a collection of (he claims) 15,000 varieties, showing the result of the many types used in their production by the wonderful variety in form, size, habit of growth, coloring and especially in the remarkable vigor and productiveness of many of the sorts.

The appearance of this strain or collection at the Pan-American Exposition in Buffalo made a sensation and has given a great impetus to the production of new seedlings by other growers.

The gladiolus is propagated by direct multiplication, by cormels, and by seeds. The corm planted dies at the end of the season, but produces a new one at the base of each shoot it sends up; so that the rapidity of multiplication depends on the number of shoots sent up.

When the corms are dug in the fall a number of bulblets or "cormels" are found attached to them. Some sorts have very few and some a great many, especially those having the Lemoine "blood." These cormels produce the same kind as the corms they are taken from and flower in the season or third year from planting—rarely the first year.

When seeds are sown they will produce hardly two sorts alike, and many will not be worth keeping, but there may be some fine new sorts. The seedlings will flower the second or third year.

It is much more satisfactory to buy the "cream" of other people's seedlings than to fill the garden with a lot of poor sorts.

Plant in full sunshine, but not against the south side of a wall, and away from the roots of trees, in well prepared soil, a mellow, sandy loam preferred, and one retentive of moisture.

Avoid contact with manure which should never be fresh and had better be plowed in the previous season or in the fall.

Occasionally restore potash to the soil in some form as for potatoes. If the soil be stiff or clayey put sandy loam in the furrow.

Plant in furrows three to five inches deep, according to the size of the corms, and the quality of the soil, and at intervals of, say, two weeks, from the time the ground will work well up to July.

By this means and by the difference in earliness of varieties, flowers may be had from July until hard frost. It is most important that the ground be kept stirred and mellow at all times, especially as soon after each rain as the ground will work well and before a crust forms.

Unless you have planted in masses for landscape effect, cut every stem as soon as the first two or three flowers open and let the buds develop in water in the house. Every morning remove the old flowers, shorten the stems and change the water. Keep at night in a cool place.

Thus treated the stems will be in bloom a week or more.

If a few specially large flowers are wanted pinch off some of the top buds at the start.

Before the ground freezes, dig the bulbs and dry them. Then cut off the stems close and store in shallow baskets or boxes in a cool, dry place. Pull off the old bulb and roots when you have time.

About watering. In my fields, cultivation has to take the place of watering, but where water is to be had, and when needed, it is a good thing if done thoroughly in the first stages of growth and again when the flower buds show color. A good soaking at the latter period makes the flowers larger.

Their varieties are legion and my space is limited. Consult a good catalogue.

About colors: The only pure white I know of is White Lady, but it has such a poor constitution that nearly all growers have given it up.

"Snow White" is often shaded pink and is a rather poor grower and a very poor producer; still it is worth growing. Augusta is the florist's white (a gandavensis), is a good grower and stem often branches. In hot weather the flowers are often tinted lavender but open white in the house. Almost the whole spike will be open at once.

Blanche (Childsi) is nearly pure-white, large and solid and about the best white as a single flower.

White Sandersoni is fine, having only a slight pink line in the throat. Snowband and Cremilda are sports of it.

Yellows are few. Isaac Buchanan (gand.) is one of the best known and rather pretty but rather small and not a bright yellow. Canary-Bird (gand.) is a good clear yellow with a good spike—the best of this color at a moderate price. Both these have small flowers.

Among Groff's Silver Trophy strain are several unnamed large yellows with a small dark spot at the throat. Klondyke is good but not very yellow. Sulphur King I have not tried.

There are no real blues, but Mr. Groff has some hybrids of Papilio Major (African) clematis, lilac and helitrope shades, with various blotches and markings, and some plum purples. Baron Hulot or Blue-jay is practically a dark blue.

For other colors see the catalogues, but I must mention a very striking sort, "Mephistopheles," bright scarlet edged yellow and with dark brown markings in the throat.—American Farm World.


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### ALFALFA.

It is strange that it has been necessary to wait so many years to determine the full value of California's principal forage plant. Farmers who have used it have invariably said, "O yes, it is good, a very valuable plant." But appreciation of its full worth has not been shown until the past few years, if even yet it is fully appreciated. Of course, it goes without saying that its success has been greater in California, or at least in the Coast states, than it has in the East, though there it has been cultivated longer. As may be seen on the first page of the cover this week, one field is now growing in North Carolina which has been planted seventy-five years. The most enthusiastic friend of alfalfa in the Middle West is Mr. Coburn of Kansas. His recent book on alfalfa gives to it all kinds of praise and urges its more extensive planting in the eastern states.

It grows in practically all sections of the world. It is not particular as to soil; not extremely exacting as to water, for it, produces without irrigation fairly good crops where the rainfall totals fourteen inches, also in the Gulf States where it totals sixty-five inches. It produces well at an elevation of 8000 feet; and does magnificently in sections 200 feet below sea level. It does fairly well in sections as far north as Vermont, though, of course, its greatest yields are in southern states.

In addition to the immense tonnage which it gives, the feed is exceptionally rich in protein, more so than any other crop which will in any way compare with it in total yield. Its leaves, as stated on another page, are even richer in protein than is bran.

In order to secure information as to the best methods of handling alfalfa in California, the Cultivator has written to growers in various parts of this state and of Arizona, asking as to methods of cultivation and harvesting. Part of these answers will be found on the first pages of this week's issue, and, owing to the interest in the subject, these will be continued in next week's paper, even more answers appearing in that issue than in the present one.

We thank our contributors who have sent in answers to the questions and believe they will be appreciated, and we aore sure that our subscribers who are interested in alfalfa will derive great benefit from these articles.

### BIG AS SEVERAL BOOKS.

Our observing subscribers may have noticed that last week's paper completed Volume XXXII. They may also have noted that the number of pages totalled 728 for the six months covered by the volume. Seven hundred and twenty-eight pages of the size of the Cultivator would makc several books of the ordinary library size, and yet the total cost to our subscribers is only a matter of four bits. We do not believe any farm paper of the West gives any such amount of reading matter for such a sum.

True it must be admitted that bulk is not the entire consideration in reading matter, but as regards quality we may be permitted to call attention to the fact that much of the material which has appeared in the Cultivator for the past few months has been furnished by practical hard-headed producers, engaged in agricultural work in the state. The Cultivator boasts that most of its material is thus secured, and we believe that none of greater value can be obtained than from the producer who has tested out his own methods. Of course in saying this, we are not referring to literary merit, merely to practical information given by practical people.

That this information has been appreciated by our large family of subscribers is shown by the increasing circulation. More papers are issued today from the Cultivator office than ever before, and, we believe, more than from any other farm paper west of the Rockies.

As to Volume XXXIII, which begins with this number, we make no promises other than to say that we propose to continue to secure from practical workers the same class of ideas which we have in the past, and we ask the co-operation of our subscribers to that end. Help us to make the paper better every week.

### IT DON'T PAY.

The great blight that today is paralyzing the agricultural interests of this country is ignorant and wasteful farming. It is destroying the fertility and natural resources of the country. What we need is intelligent, energetic, educated farmers and managers. There never was a time when the demand for competent farmers and managers was as great as it is today, nor a time when qualified men could command as high a salary as they can today. We ought to assist, educate and instruct the farmer in the improved and modern methods of farming, and of rearing, feeding and improving his cattle. We ought to encourage, and persuade him to give his sons a thorough agricultural education. Then they will want to stay upon, and manage the farm, instead of abandoning it to obtain some ill paid position in the village or city. Then they will learn the chemistry of their soils, and will know what to put upon their lands to obtain the best results from the various crops they desire to produce.—President Kellogg of the Holstein-Fresian Association.

### A GOOD EXPOSITION.

The California Promotion Committee, referring to the recent California excursion to the A-Y-P Exposition, says that the eyes of all attending the exposition have been opened to the wonderful possibilities for good in this great educational exhibit. The Committee adds that the exhibits equal those of any exposition ever held, and that everyone that visits it cannot fail to return with a higher sentiment of loyalty to his country and of pride in his state. Especially is this true of Californians who have the finest state building on the grounds.

### PRACTICAL ALFALFA METHODS.

(Continued from Page 3.)

to plow up the field and sow to something else for a while.

10. I think it best to keep a field in alfalfa as long as it is a good, clean stand and sufficiently thick to grow fair crops.

11. I have never grown alfalfa between orchard trees.

12. I raise alfalfa to feed dairy cows. I am satisfied it makes the best hay for this purpose if cut as soon as it gets into the bloom bud, before it gets into bloom. There will be an occasional bloom seen through the field by the time it is all in bud, but it should be cut before there is any very noticeable amount of bloom.

As to time of raking after cutting, that depends largely on weather conditions. In the hottest weather I sometimes rake four or five hours after cutting. This question cannot be definitely answered, as conditions are rarely the same in two consecutive cuttings. The weather must be taken into account, and also whether crop is light or heavy. The hay should be raked, cocked up and cured in the cock, and should be stacked before it gets dry enough to lose the leaves in handling. It shatters badly when too dry and the stalks after the leaves are gone are not of very high value. The hay should be put into the stack as soon as it will keep without heating. It should be damp enough to go through a light sweat and will thus handle much better when fed out. I have never used caps of cloth for covering the cocks, nor have I ever heard of them being used in California.

**Tribble Bros., Elk Grove, Sacramento County.**

1. We grow the common alfalfa or Medicago sativa. We are securing seed of the Arabian variety.

2. We irrigate from a gasoline pumping plant and have our checks high enough to have water three inches deep on the highest parts of each square.

3. We plow and harrow till the earth is all pulverized, no clods or lumps remaining, and have never inoculated our soil.

4. We sow any time our ground is ready except during the winter. After ground is in condition we sow the seed and flood the ground and keep it so the moisture can be seen on the surfaoe till the alfalfa is several inches high. We have used from twenty to twenty-five pounds but that is more than necessary as our plots stand very thick. We seed by broadcasting and test the seed for dodder before buying, but have got a start of sweet clover in our last plot. We sow the seed alone and believe any grain sown with alfalfa is injurious.

5. We tried disking but ruined the alfalfa and now use a sharp toothed harrow, which has proven much better. If used three times a year it would pay. We use stable or barnyard manure, all we can get, and get at least two-thirds more hay or green feed than from the unfertilized plots.

6. The first cutting is usually somewhat foul, but not much so, and only a small amount of foxtail. We do not have a silo but use the feed green.

7. We cut seven or eight times a year.

8. Feed it on the place and allow no pasturing, under any conditions, and are not troubled with bloat.

9. Gophers are our only pest and they are drowned in irrigating.

10. The alfalfa is allowed to stand for years. After five years in two plots, it is even better this season than any year previous, owing to a good dressing of manure.

11. We do not grow alfalfa among trees, but a fine bearing walnut orchard near here has been ruined by planting alfalfa in it. In irrigating, alfalfa takes more water than any fruit tree can stand (fig excepted). If alfalfa was not fertilized it would soon exhaust the soil. Such being the case, trees would be injured.

12. We cut just before the blossoms open. In curing we rake on the day following mowing, and judge from the appearance in the cock when to haul. We usually turn cocks over so they may dry evenly. We have never had occasion to use caps.

* * * *

Owing to the large number of answers, and all most interesting, the article will be continued next week.

# Agricultural Notes of the Pacific Coast

## Northern California

Oroville reports a heavy olive crop.

Prune trees are being thinned near Oroville.

Interest in the dairy industry is increasing in Sutter county.

Auburn, Placer county, is soon to have a carnation nursery.

Vacaville has a new co-operative fruit marketing association.

The cannery at Haywards is paying $25 per green ton for apricots.

A rain last week over the Sacramento Valley did some little damage.

Sacramento is shipping about twelve carloads of vegetables daily.

Meridian, Sutter county, reports an exceptionally fine crop of hay and grain.

The recent rains caused grape growers to do much extra sulphuring of vines.

The depth of snow about Lake Tahoe was so great this year that the season of opening was much later than usual.

Hop growers of the Sacramento Valley are anticipating that hops will yet go to fifteen cents a pound and possibly twenty.

The hay and grain crops of Humboldt county will be light, but the fruit crop heavy.

Skimming station No. 1 of the United Creameries Company, located at Arcata, Humboldt county, recently burned.

The foliage of peach trees near Palermo is being attacked by a beetle which is said to be very seriously damaging the trees.

A frightened team of thirty-two horses scattered a combined harvester over several acres of ground at Williams, Colusa county.

The members of the Sonoma County Co-operative Poultry Association have changed to a monthly meeting held regularly on the first Saturday of each month.

Notwithstanding there has been some development in Mexico in the dairy industry, the bulk of the butter used by Americans there is supplied from this country.

Vacaville shipped a car of peaches, plums and apricots to the Philippines a couple of weeks since. This is the first full car ever shipped to those islands from California.

The Colusa Water Carnival held the third week in June was a grand success from every viewpoint. The Sacramento Valley Development Association is doing splendid work.

A poor fence was the cause of a large number of horses from a ranch in Biggs, Butte county, escaping to the railroad track, and the Oregon Express plunged into the bunch and killed seventeen.

Among the live stock exhibits at the Alaska-Yukon-Pacific Exposition, we note that Mrs. J. H. Glide, Sacramento, will take her large herd of shorthorn cattle, among which is Edward III, winner of many prizes at many fairs and expositions: T. B. Gibson, Woodland, will also take a herd of shorthorn cattle; Senator B. F. Rush, Suisun, will also take a herd of cattle; H. P. Eakle, Woodland, will take some sheep to enter in competition for prizes.

## Central California

English capital is investing in vineyards near Fresno.

Fresno county produces over $3,000,000 worth of cereals yearly.

Six sections of land were covered by fire near Famoso, Kern county, last week.

A fine boulevard is to be constructed from Del Monte to Castroville, Monterey county.

Co-operative life and fire insurance was the topic at a recent meeting of the San Jose Grange.

The directors of the Santa Clara Valley fruit growers' Association have filed with the secretary of state articles of incorporation.

George Smith of Corcoran will exhibit over $50,000 worth of Jersey cattle at the Seattle Exposition.

San Jose Grange has asked congress through Representative Hayes to put a tariff of two cents a pound on cherries.

Raisin growers of Fresno county are making an effort to have the raisin introduced as a part of the army ration.

George Smith's Creamery at Corcoran is said to be running about 1200 pounds daily. It is all shipped to Los Angeles.

Lincoln Grange, Santa Clara county, is starting a movement to secure less automobile speeding on the public highways.

The first eastern shipment of plums out of Santa Clara Valley was on June 18th and consisted of eighty-five crates of Clymans.

Santa Clara Valley Chamber of Commerce has just issued 25,000 booklets showing the horticultural possibilities of that section.

Twenty-seventh annual exhibition of the Monterey Agricultural Association will be held at Agricultural Park, Salinas, August 16th and 17th.

San Jose is to have a special day at the Seattle Exposition, and proposes to make known the merits of prunes on that day as never before.

At the recent meeting of the directors of the Bakersfield Fair Association it was decided to hold the coming fair the week following the State Fair in September.

Prof. W. H. Volck working in the apple orchards of the Pajaro Valley has made investigations which will be of great value to all apple growers who have been troubled with powdery mildew.

The directors of the Santa Clara Fruit Association have taken up the matter of the handling of the coming output of fruit and are arranging with a prominent fruit man to act as manager of the central organization.

The grape growers of Turlock have pledged themselves to contribute ten cents for each ton of grapes sold during the coming year, to be used as an educational fund in the distribution of literature concerning the wine industry.

Report having been published that the Argentine ant had taken possession of Delano, Kern county, fruit growers there have come forward with denial that such was the case, and state that the ant in question was merely the ordinary red ant.

## Southern California

Redlands will dry 1000 tons of apricots this season.

Imperial farmers are planting heavily of Egyptian corn.

Corona has a young orange nursery of over 300,000 trees.

The Oxnard Sugar Factory will begin its campaign on July 6th.

Apricot dryers started full handed in the Redlands district last week.

A large addition is being made to the fruit packing house at Banning.

The first full car of cantaloupes out of Imperial commanded $2896 in New York.

Coachella Valley claims to produce dates which are the finest in the world.

Carload shipments of cantaloupes are now at their height in Imperial Valley.

It is feared the hot weather at the first of June has injured the coming olive crop.

An Oxnard grain grower has a freak barley which grows five heads on a single stalk.

Desert papers are recommending the use of mesquite for shade trees along the roadways.

The Imperial Valley Collegiate Institute at Heber will soon begin the erection of a $13,000 building.

Yucaipe Valley, San Bernardino county, orchards are setting an exceptionally heavy crop of apples.

The horticultural commission of Riverside county is doing some thorough work in gassing orchards infested with red scale.

Garden Grove, Orange county, has had a bumper crop of berries this year. The fruit is marketed principally in Los Angeles.

It is estimated that the increase of the water supply of San Jacinto from this season's developments will be about 600 miner's inches.

While it was supposed that the navels were practically all shipped by June, it is said that a few were forwarded as late as the first of July.

Beaumont, San Bernardino county, has proved itself a cherry growing section by shipping for a short time this year two tons of cherries per day.

During the highest of the flood of the Colorado River, it was estimated that it was discharging about 120,000 cubic feet of water per second, which was about equal to 6,000,000 miner's inches.

Mr. J. B. Neff of Anaheim, who has grafted his walnut orchard to blight resistant stock, has found some grafts set last year bearing as much fruit this year as the entire tree bore before it was grafted.

The ranchers and truck growers of the Coachella and Imperial Valleys have formed an organization which it is hoped will lead to a stock company which will build cold storage houses and market the products of the members.

Los Angeles recently shipped six cars of potatoes within one week to the northern markets. Shipments have usually been the other way, and this anomaly is said to have been caused by the late spring frosts along the Sacramento and San Joaquin rivers.

## The Coast

Alfalfa is selling in Spokane at $20 per ton.

Saint Maries, Idaho, is soon to have a creamery.

Yuma Valley, Arizona, barley crop will be immense.

Union, Oregon, shipped 148 carloads of hay last year.

New alfalfa started off at Seattle, Washington, at $13 per ton.

700 cars of fruit will be shipped from the Yakima Valley this summer.

Grain fields about Tequoa, Washington, are expected to yield 40 bushels of wheat per acre.

Hood River apple growing section maintains that it will ship a thousand cars more apples this year than last.

Palouse, Washington, farmers' union will incorporate and handle grain of its members and do a warehouse business.

The Pierce county, Washington, Bee Keepers' Association recently held its annual meeting and elected officers.

The farmers' union of Medical Lake, Washington, recently held a picnic at which over 215 people were present.

Lebanon, Oregon, recently held an all day strawberry fair, the prize crate from which sold for $33 for twelve boxes.

The Idaho output of prunes will be small this summer, but the Washington and Oregon estimates are fully up to the average.

It is estimated that the grain output of Walla Walla county, Washington, will aggregate about 5,000,000 bushels this season.

Alfalfa growers at Pullman, Washington, began their first cutting of alfalfa about the middle of June. The yield will be immense.

Sheep owners at Pendleton, Oregon, have been arrested for failure to dip sheep. The inspectors declare that clean sheep must be the rule.

A strawberry grower at Arlington, Oregon, has one vine on which 140 berries were counted at one time. This count did not include blooms.

The underflow of Santa Cruz and Rillito rivers in Pima county, Arizona, will be captured and used for irrigation of large sections of dry land.

A meat packing house is proposed for Yuma. The only point to be considered now is as to whether the supply of live stock will be sufficient to maintain it.

Coeur d'Alene is preparing to accommodate immense crowds of visitors expected during the registration for the opening of Indian reservation lands July 15th to August 9th.

Eighteen sections of land near the headquarters of the Nachez River near Yakima, Wash., have been withdrawn from entry. The irrigation project contemplated is the cause of the withdrawal.

A proposition will be made at the coming irrigation congress to be held at Spokane August 9th to 14th that Congress be memorialized to issue gold bonds running a hundred years in the amount of $5,000,000,000 for reclamation and conservation of various resources.

**FOR MOULTING HENS**

**Feed**

# MIDLAND

## Poultry Food No. 4

***$1.95 per Sack***

Midland moulting food is a balanced ration for the moulting hen and is absolutely the best food to feed for eggs and feathers. By feeding No. 4 now you bring your flock through the moult in good condition, which insures eggs when the market is high.

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Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

Send for our Illustrated Catalogue.

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**Feed for Eggs Next Fall by Starting In Now with**

# West Coast Egg Food

Don't make the common mistake of supposing that you can let the fowls get all run down before or during molting and then bring them up by heavy feeding later. You won't get eggs that way.

West Coast Egg Food has been the leader for many years. It is even better this season. We know how to make rightly balanced rations. That is our business. And we have the best equipped mill for doing it. No unsound grain, no mill refuse and such stuffs in ours.

Send for Biddy Booklet with many testimonials. Ask your neighbors, for there are more West Coast Poultry Foods fed in Southern California than all other kinds put together. If your dealer doesn't sell "West Coast" don't take others "just as good," but send to us and we will serve you right.

Made by the

**West Coast Mill**

**Cor. Griffin and Alhambra, Los Angeles**



**Single Comb White Leghorns**

The first essential to success in the poultry business is that the foundation stock or eggs be purchased from a reliable breeder, one who has made a success of the poultry business from the fact that his stock has proven to be the Business Hen. Such stock or eggs we now offer you and stand back of our sales. Prices for stock on application. Correspondence solicited.

Eggs—$1.50 per 15, $7.00 per 100 and $60.00 per 1000.

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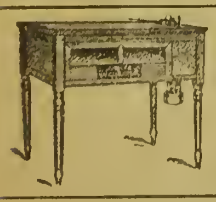

**WHY?**

Do All Prosperous Poultrymen Use

***Jubilee Incubators and Brooders***

Our Catalogue A Will Tell You. It Is Free.

***Jubilee Incubator Company*** ***Sunnyvale, Cal.***


Green grape shippers at Lodi are considering the co-operative plan of marketing their crop.

Prospects are good for an exceptionally large crop of Tokay grapes at Folsom and Fairoaks.

# Profit in the Poultry Yard

By Mrs. Frank Metcalf

**We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.**

### ALMOST WENT LOONY.

I SAID to Arabell—Arabell is my daughter—that I was going into the chicken business, if I had to ruste them in the kitchen; and so we did.

I bought an old hen from old Missus Jones, and gave her 35 cents for the bird. Well, Mrs. Blackwell, the person Arabell was working for, mean, stingy old cat, gave to Arabell nine setten eggs. But as luck would have it, every egg hatched, and the old hen made a good mother to the little chicks.

Now, we set the hen in the kitchen, and when the chicks came, we were no better off than at first; for we had no pens to put them in, so a store box was put on the side poarch where the sun came and—well, I never saw chicks grow so fast; It was only a few weeks until the billy-boys were fighting each other, and they actually crowed for joy as the battle turminated! Well, Mr. Blackwell, Arabell's lady's husband, pursuaded Arabell to take his incubator and raise more chicks. He, good man that he is, made Arabell a present of six dozen eggs—so there was no getting out of it; we were in for the Chicken business, and no mistake, even if we had to ruste them in the kitchen.

Well, now six dozen little chicks to mother was more than I had reckined upon; so the side-porch had to be wired in and a bruder attached! my grecious, I thought I would go wild with all the cherping, from early morning till night!

Then Arabell, she got her wages, and she would have made chicken-runs, and little ruste houses in the garden, so all my nice garden vegetables had to give place to the Chicken Business. Well, we actually had 81 chickens, and the crowers sold for enough to pay for all the wiring and rustehouses.

But, if Jim Fisk had not taken Arabell, and the chickens too, I should have gone loony, sure.—Mrs. Pepper.

### TURKEYS.

A TURKEY will succumb to most any disease, if infested with vermin, as the system is already weakened and they haven't the strength to resist them. If gorged or overfed while young, it causes a diseased liver, which results in bowel trouble and usually ends in death, or, if the poult should recover, it always remains a puny, stunted turkey, and one would much rather it was dead. Turkeys while young, easily contract disease from other fowls. For this and other reasons they should not be allowed to run with other poultry, until they are older and stronger.

Nothing keeps a turkey in good health so much as free range. They must have free range to grow and develop. We were once asked how much free range ought a turkey to have. Our answer was that an 80-acre farm was none too much and then, sometimes, they trespass on a neighbor's 80, which frequently causes an outbreak of a well known disease called "bad blood," in which more than the turkey are affected. In this case you probably will have a remedy of your own. All dead animals, or fowls, should be promptly burned or deeply buried, as in all dead bodies ptomaine poison develops and if eaten by turkeys, it causes paralysis of the nerves or "limber neck" as it is usually called for which there are very few remedies. Anything that will stimulate the nerves may save them. It is probably a well known fact that a fowl does not perspire, the waste of the system in a large measure being carried off in the vapor of the breath, which is far more rapid than many would suppose. The heart of a turkey beats 150 times per minute, which causes a rapid respiration and demands twice the amount of air, in proportion to its weight. Thus it will be clearly seen how very great is the demand for fresh air during their sleeping hours. We have seen turkeys that were taught to go in the poultry house and roost with the chickens, but they were not as strong, healthy turkeys as those that were allowed to roost in the open air, on trees or fences, both winter and summer. Possibly they may live, but we want them thrifty as well.

The term, "cholera" is applied to a disease which, though it varies in different parts of the country, is everywhere accompanied by a violent diarrhoea and is rapidly fatal. In such an outbreak among your turkeys separate the sick ones from the well, and at once give a change of food, which should be of the most nutritious character, combined with some stimulant, as ginger or cayenne pepper or a tonic of iron put in the drinking water.

Turpentine put in the drinking water of the well ones acts as a disinfectant and prevents the disease from spreading.

A continual feeding of corn with the lack of grit or coarse sand, will sometimes cause an outbreak of this trouble, which attacks the whole flock in general. The disease appears to be epidemic, but with a variety of food with plenty of grit, this so-called "cholera" very seldom makes its appearance. A subscriber writes that she has turkeys that have swollen heads and would like to know if this is a germ disease and how long it will take to stamp it out. This disease may be caused from germs as there are very few diseases that do not originate from germs, bacilli, or in some microbe form, and unless it is fully developed, it can be stamped out with very simple remedies. In common words, this swollen head is nothing more or less than cold, caused mostly from exposure, and is the first symptom of roup, one of the most formidable diseases we have. If taken in its first stages it is quite easy to control, but if allowed to develop is one of the hardest to contend with. At first they begin by sneezing and their heads swell. To neglect this trouble at this stage would result in roup in a short time. The membrane of the air passage, tear tubes and throat becomes inflamed and when so much so as to close the air tube, the discharge be-

comes acrid and roup is the result. To prevent this, it is necessary to check these mucous discharges.

We found that turpentine rubbed on the neck and head, swabbing the throat with the same, acted as a counter-irritant, and worked like magic, demonstrating the fact that this disease could be checked in its first stages by a very simple remedy.

### Raising Turkeys.

We prefer setting turkey eggs under some motherly hen whose brooding qualities are assured says a correspondent to the "National Stockman." The turkey hen is of too strolling a disposition. Twenty-seven days are required for incubation. If the weather is warm no especial care is necessary during the time the ben leaves the nest to seek food; but care must be taken lest they chill should the weather be cold. The best time for hatching is May if it can be managed, especially if the birds are wanted for the Thanksgiving market. Eleven eggs may safely be given to a large fluffy hen, but nine are enough for an ordinary sized hen.

As soon as the poults are hatched, which is all about the same time—being much more uniform in this respect than chicks—remove with their mother to a new coop if possible. Let it be warm and rain proof; one with a southern front is best, as it will admit both sun and air on pleasant days. A storm door must be provided for rainy days. If the coop has been used before thoroughly fumigate and whitewash it. Select an elevated, well drained place. Confine them five days, when they may be allowed to go out for an hour or so; but do not allow them to become tired out. Visit each coop every evening and see that every chick is covered by the hen—many fatalities arise from this cause—the silly things will chill within a foot of the hen, so during the first few days watch them closely. During the first few weeks they should be fed at least five times a day, and only what will be eaten up clean, using saucers or shallow dishes for this purpose.—Green's Fruit Grower.

Keep on advertising.

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POULTRY FOODS
Growing Chick
...Food...

Can be fed damp as a mash or dry in hoppers. Feed it to your chicks up to 3 months old. Gives rapid growth and health.

It will save your grain bill, and you cannot afford to be without it.

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MADE IN PETALUMA
GUARANTEED
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### THE FARMER'S A B C'S.

Advertising is the stepping stone to succcss.

Be thankful to get any prize at all without expecting anything.

Choose your variety and jump in.

Discard the narrow breasted, one-legged ones. Thcy are a delusion and a snare.

Every ncglect has its cost in poultry raising.

Fatty meat should never be fed to laying stock.

Gentleness is virtue in the poultry yard.

Have an object in view and then work strictly to the line.

Indifferent care will ruin the capacity of any breed.

Johnnycake is a good feed, if you want to become a slave to your chicks.

Let the comb act as your health barometer.

Mix common sense with a good disinfectant for the roosts and do not neglect to use it.

Nothing else is better for growing stock than dry bran.

Overcrowded quarters mean disease, death and disaster.

Profit in any kind of poultry breeding comes from having the best.

Quite a few dollars can be made in poultry if you have common sense.

Read all you can lay your hands on regarding poultry breeding, and then use your own common sense.

Scratching hens lay the eggs.

Trap nests expose the fraudulent hens.

Utility means more than symmetry, shape and feathers.

Vigor and vitality are the factors that make the money.

Working hens, like working people, are the healthiest to get along with.

Xanthous-legged fowls are market-uppers.

You can't expect to keep pills and capture the cups.

Zetetic method will bring results where blind following of custom fails. —Orffs Poultry Review.

### PROVIDE FOR POULTRY.

To the average farmer the income from poultry appears insignificant and not deserving of any especial attention from the head of the farm, says the Farmer's Advocate. Of all places for the handling of poultry at a profit the farm is ideal. Farm life provides the natural environment for the laying hen and the growing chick. While picking up the waste of the farm the hen gets the food best adapted to her requirements; she gets the exercise needed and the free range gives her the clean quarters and pure air she must have to be healthy and thriving. In proportion to live stock on the farm she needs the least special attention and in reality almost every dollar of income is clear profit. It is the duty of the farmer to provide during the few months of the year needed a comfortable and healthy hen-house and to provide such feed as is needed by the flock during the winter. Everything else can be taken care of by the wife and children, and knowing as they do the value of the poultry product, they are glad to bend their energies to increasing the income.

The eggs from many farms buy all the necessities of the house and in many instances the boots and shoes for the boys and girls. Every farm should have all the hens thereon which can be accommodated, and it is safe to say that on nine of every ten farms two or three times as many could be kept as at present. If you have not kept an account of the income from poultry, begin that account now and note if at the end of the year you do not feel justified in increasing the flock and in giving more of your time in providing the women with better facilities for housing and feeding.

Coulson's
EGG FOOD

At this time of year the hens are apt to begin falliug off in their laying, and it is necessary for poultrymen to keep them up as long as possible. If they stop laying too early and start molting, they are likely either to take a long time over the molt, or if they molt quickly to have another molt in the late fall.

A scientifically prepared Poultry Food like COULSON'S EGG FOOD, fed at this time will help greatly to keep the hens laying up to and well into their molting time, with consequent satisfactory profit to their owners.

Remember that all egg foods are by no means alike, and it is advisable for you to buy a brand that has stood the test of time.

COULSON'S EGG FOOD is therefore what you want to give you RESULTS, and keep your flock in healthy condition for the molt.

For sale by dealers everywhere. Write for our free book "Poultry Feeding for Profit" with samples of our Poultry Food.

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Petaluma, California

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Kill Insects
ON PLANTS ON POULTRY
With
Devils Dust

Devils Dust is guaranteed to Kill all kinds of vermin on poultry and insects on plant life.
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# Irrigation and Forestry

## DESERT WATERING PLACES.

THE southwestern part of the Great Basin—that portion of it including the arid areas of southeastern California and those of Nevada that are most easily reached from California points—is known generally to the dwellers in the less arid districts west of the Sierra as "the desert," but local names are applied to its various subdivisions. The most important of the subdivisions are the Colorado and Mohave deserts and the Death Valley region. The Colorado Desert extends from San Gorgonio Pass southward to the Gulf of California and includes the depression known as the "Salton Sink." The Mohave Desert lies farther north and its boundaries are not so definite, but it includes much the greater part of San Bernardino County and the eastern portions of Los Angeles and Kern counties, Cal. The Death Valley region, which lies north of Mohave Desert, stretches eastward from the Sierra Nevada, covering a large part of Inyo County, Cal., and extending into Nevada. It is named from its central feature, Death Valley, the lowest point on the continent.

### Resources Of The Desert.

The present public interest in this desert region, which comprises an area of about 68,000 square miles, is intense, largely because of the discovery and development within it of mines that are heavy producers of gold. The resources of the desert, however, are not confined to the precious metals but include many other products of economic value, among which may be mentioned several valuable salts, including borax, soda, gypsum and common salt; building material, including marble, onyx, brick clays and cements; baser metals like copper iron, and lead; and gems, among which are turquoise and opal. These products are widely distributed throughout the desert counties, and although the existence of some of them in commercial quantities and available form is as yet problematic, others already form the basis of important industries.

### Wells And Springs.

The wells and springs of the desert region are few in number and very irregularly distributed—so irregularly, indeed, that although in some districts watering places occur in groups, in others they are 30 to 50 miles apart. Unusual activity in railroad work has so stimulated prospecting that there is a large influx of strangers, many of whom do not fully realize the danger of traveling through an arid region, and it is highly important that the springs and other watering places should be located as definitely as possible and described for the benefit of prospectors and other travelers. It is believed that this urgent need for the dissemination of information in regard to the location of known watering places and the possibility of locating and developing water at other favorable points will be met in part by a report by W. C. Mendenhall, which has just been issued by the United States Geological Survey as Water Supply Paper 224. The paper includes a map of the region.

More than 300 watering places are described and mapped, and the map shows also a number of the principal roads through the desert. These roads have not been surveyed and only approximate locations are possible, but the map at least indicates the usual routes of travel.

A copy of Mr. Mendenhall's report can be obtained on application to the Director, Geological Survey, Washington, D. C.

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## PROGRESS OF THE IRON CANYON MOVEMENT.

THE effort to bring about the construction by the United States Reclamation Service of the Iron Canyon project is progressing in a manner highly satisfactory to those interested. Application for actual construction was made to the Secretary of the Interior in February last, and resulted in an allotment being made for surveys to determine the feasibility and cost of the works. Following this was a mass meeting at Red Bluff of large proportions and unbounded enthusiasm.

The surveys have not yet been begun, but it is believed that they will be in progress soon. These are expected to determine the feasibility and practicability of the project and the approximate cost, and to form a practical basis upon which the proposed works may be considered by the officials of the Department of the Interior and by the owners of lands to be irrigated.

It is reported that Secretary of the Interior Ballinger will visit the Pacific Coast next fall, and an effort will be made to induce him to spend enough time in this valley to become familiar with the principal features of the project, and with the great advantages of the lands available to the Iron Canyon site.

The letter of Secretary Garfield, written in response to the application for construction of the project, constitutes a most important recognition of the proposed project. It states that the Sacramento Valley project is of national importance; that it is the intention of the Department to proceed with its construction as funds become available; that Iron Canyon is regarded as "the dominant unit"; that an allotment for surveys has been made.

The Iron Canyon project involves the diversion of the Sacramento River at Iron Canyon, seven miles above Red Bluff, and the distribution of the waters to lands lying on both sides of the river below that point. The application was made on behalf of a unit of approximately 120,000 acres (probably about one-third of the area to be served ultimately), of which about 100,000 acres were actually represented by signatures attached to the petition. The signatures to this petition were obtained within a period of a few days. When it was decided to present the matter to the Department, committees took it up actively and effectively. The results already shown at Orland, where a project is under construction, had paved the way to ready organization; every land owner who was approached signed the application. It was a demonstration of an interest in irrigation and confidence in the Reclamation Service.

Money for the construction of this project is not available in the reclamation fund, but it is hoped that means will be found at no distant date. Accessions to the fund amount to more than seven millions of dollars annually, and if they continue at this rate the money will become available. It is possible too that other means may be found. It has been suggested several times that land owners and States may co-operate with the Reclamation Service in financing irrigation work. This is now being done in a small way, and a larger development along these lines is wholly possible.

The most encouraging feature of the situation with reference to the Iron Canyon project is the interest taken in it by those whose interest is essential to its realization. It is a well known fact that the Reclamation Service was kept out of this valley five years ago by the apathy of the people. Now that there has been a real awakening it is safe to assert that a large development is in prospect.—Great West.

## FOURTH DRY FARMING CONGRESS.

The Fourth Dry Farming Congress will meet at Billings, Mont., October 26, 27 and 28, 1909. The International Exposition of Dry Farm Products will be held during Congress week at Billings. Thirteen western states and territories, two Canadian provinces, Mexico and Russia will send exhibits. Seventeen states and ten foreign counties will have delegates at this Congress.

In the west 200,000,000 acres of arable land awaits development by Dry Farming methods. Texas has 25,000,000; Montana, Colorado and Wyoming, 50,000,000; New Mexico, Oklahoma, Utah, Idaho and Arizona, over 60,000,000.

Experts estimate that in ten years every drop of water available for irrigation will be utilized. For every acre irrigated there will be 50 acres of dry farm land when irrigation possibilities are exhausted. Experience shows that non-irrigable land yields crops averaging 50 per cent the quantity reaped under irrigation. To this land the future homeseeker must come.

In 1900 dry farm land in the west averaged fifty cents to $1.50 an acre. Increased valuation where Dry Farming has been demonstrated shows that within ten years this 200,000,000 acres will be held at $10 to $50 an acre. Dry Farming means an increase in western land values, at a conservative estimate, of approximately five billion dollars.

The Dry Farming Congress teaches farmers how to conserve moisture by intelligent cultivation, educates them in soil culture and seed selection and guides inexperienced settlers in methods that bring them their share of the harvest profit. It extends the limit of producing area to the limit of acreage in arid and semi-arid regions and, therefore, is the keystone upon which the future prosperity of the great west is established.

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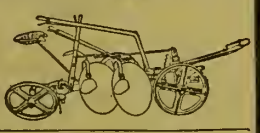

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# General Agriculture

## THE DISK IMPLEMENTS.

THE disk which is now being used on many of our farm implements has certainly come to stay. Its rolling friction makes it pull somewhat easier than sliding friction. Because of its rolling motion and cutting effect, it is very hard to clog; what it cannot cut it will roll over.

### Disk Plow.

The disk plow is capable of handling ground that has become too dry and hard for the moldboard plow. It is of somewhat lighter draft, does not require sharpening so often, cuts through trash better, and does not clog so easily.

The 24-inch disk is superior to any other size. This size will pulverize the soil more than a 28 or 30-inch one and does better work.

The disk should not cut too wide a furrow. It is far better to use two disks 24 inches in diameter, each cutting 8 inches in width, than to use a 30-inch disk, cutting 14 to 16 inches in width. Taking a narrow furrow tends to make the bottom of the furrow less corrugated.

Plowing the same ground year after year with the disk does not keep it in so good condition as if plowed with a moldboard plow.

The moldboard is generally considered best for humid and irrigated sections, and the disk plow for dry, semi-arid sections.

### Disk Harrows.

The disk harrow may be considered as the most important tillage tool for grain farming. There is no other tool that will conserve more moisture by using it on stubble, after harvest and before plowing time. It may be used as a cultivator for summer fallowing. On ground where small grains are to follow such crops as beets or potatoes, the use of this tool will often make plowing unnecessary.

The 16-inch disk is the proper size for ordinary farm work. This size pulls somewhat heavier than the larger sizes, but pulverizes enough better to justify its use. The 16-inch disk penetrates the soil deeper than the larger one because it has less bearing-up surface; it revolves faster, thus pulverizing the soil better.

For handiness and ease of operation each gang of the disk should be controlled by an individual lever. All bearings should be well protected from dust and dirt and so constructed as to be easily oiled. Each disk should be provided with a satisfactory foot lever cleaner.

### Disk Grain Drills.

Of the various methods of opening the furrows on grain drills, the disk is now given the preference. This may be either in the form of a single or a double disk. The single disk is being used very much more than the double disk at present; it penetrates the ground easier, cuts through the trash better, and is capable of cutting a deeper furrow than the double disk.

The double disk has the advantage of being able to deposit the seed in a better condition, to a more nearly uniform depth, and also leaves the ground smoother. There is very little difference in the draft of these two types of disks and under ordinary conditions very little preference between them.—H. M. Bainer, Colorado Agricultural College.

## THE FIRST CUTTING OF ALFALFA.

All alfalfa should be cut when not more than one-tenth of the plants have come in bloom. Cut at this early stage the yield of hay for the season will be much greater than if it is cut near maturity and every pound of hay secured will be worth more for feed. Early cuttings invigorate the plant. The late cutting of the first crop injures the plant more than any other time and we have found it profitable to cut alfalfa as soon as new buds appear around the crown regardless of the bloom. The increased yield from succeeding cuttings over that cut late much more than makes up for the loss of the first crop.

The leaves of alfalfa contain more than three times as much protein as the stems. A ton of alfalfa leaves contains as much protein as 2,800 pounds of bran. Protein is the material necessary for the formation of blood, lean meat and milk. Every effort then should be made to cure the alfalfa in such way as to save all the leaves possible. The method of curing will of course vary with the condition of the crop, ground and weather. When alfalfa has made slow growth and at the time of cutting the ground and the weather are dry, there is no difficulty in curing. Often under these conditions it is safe to rake within a few hours after mowing and stack a few hours after the alfalfa has been put in the windrows.

When alfalfa has made rapid growth and is rank and succulent, and the weather and ground are damp the problem of curing is a difficult one. It is easy to dry the leaves but the stems will contain much moisture after the leaves are too dry. Alfalfa hay should become so dry before stacking that when a handful of stems are tightly twisted together no water can be squeezed out. The most practical way to accomplish this and at the same time save the leaves is the plan to adopt and this will vary with different seasons and places. There is practically no difficulty in this country in curing any but the first crop.

Some of our alfalfa growers in Colorado make a sandwich by putting alfalfa and dry straw in alternate layers. This is a satisfactory way if the dry material is available. Others use from ten to fifteen pounds of salt or airslaked lime for each ton of hay, sprinkling the salt or lime so as to cover as much of each load as possible. However, we have noticed that less gain is made by cattle when salt is mixed with the feed. Lime showed little effect and we have never thought much of its use in this way. The best way to prevent spontaneous combustions of alfalfa is to thoroughly cure before stacking. It is not often that all the conditions necessary to produce spontaneous combustion are present and ordinarily there is no danger when reasonable care is taken, except with the first cutting and then only when the growth is rank—Denver Field and Farm.

---

Haywards is beginning the planning of an apricot carnival to take place a year from the coming Fourth of July.

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| ¾ in. | 3¼ cts. | ¾ in. | 1½ cts. |
| 1 in. | 4¾ cts. | 1 in. | 3 cts. |
| 1¼ in. | 6½ cts. | 1¼ in. | 4 cts. |
| 1½ in. | 7¾ cts. | 1½ in. | 5 cts |
| 2 in. | 10½ cts. | 2 in. | 6½ cts. |
| 2½ in. | 16¾ cts. | 2½ in. | 10 cts. |
| 3 in. | 22 cts. | 3 in. | 14 cts. |
| 4 in. | 31½ cts. | 4 in. | 20 cts. |
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| 6 in. | 57 cts. | 6 in. | 35 cts. |

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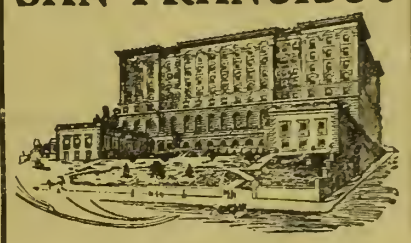
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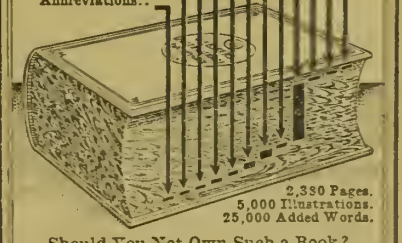
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# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### This Year's Dried Apricots.

What is the ratio between the amount of dried apricots this year and last?—A. G., Santa Paula.

It is impossible to give the ratio at this time. We can say, of course, that the crop is much larger this year than it was last, although it is not up to the normal full crop. In fact, some think we will never reach the total output we had a few years ago owing to the fact that so many orchards have been removed. So far as returns have come in the fruit this year shows exceptional quality.

### Various Questions.

When should a three year old umbrella be moved? Would mammoth blackberries ship 100 miles and be in marketable condition? Burbank's Phenomenal berry does not yield here nor grow so large as in some other localities. How is it generally?—J. A. P., Ripon.

Move the umbrella tree between January 1st and March 1st.

Certainly blackberries could be shipped 100 miles and arrive in good condition. That would only be a little over three hours.

I know of no fruit ever sent out that gave so many unfavorable reports as the berry you refer to. Unreliable parties have sent logan berries often for Phenomenal and possibly the latter is all right if you get it true.—Q. A. L.

### Size of Apricot Boxes.

A Ventura subscriber recently asked concerning size of boxes in which apricots are put when given to the cutters in the dry yards. He reports a great diversity of size but practical uniformity of price for the cutting. The box generally used is the so-called fifty pound box. He wishes to know whether there is any uniformity in other sections and what the size of the ordinary cutters' box should be. Mr. George H. Waters, proprietor of the Pomona Cannery answers as follows:

We are using a uniform box smaller than we had years ago, of the following dimensions 2 feet long, 14 inches wide, 7 inches deep, which makes a 40 pound box. We are paying 8 cents a box for cutting, regardless of size of fruit, only we do not receive any little fruit that will not run 1¼ inches. The 40 pound boxes give much better satisfaction all around, and keep the fruit in much better condition.

### Franquette Walnuts.

Would Franquette walnuts fill well in the locality of Ripon, San Joaquin County? The soil is sandy loam twenty feet deep, though on the river-bottom soil is rich and heavy and about six feet to hardpan.—J. A. P., Ripon.

Franquette walnuts fill well in the Sacramento Valley at Marysville. This would warrant us in saying that they would fill well at Ripon. There is one condition, however. The Franquette walnuts should be either on the hybrid or California black walnut root. They will fail either on their own or English walnut root.—J. W. M.

### Leaves Too Light.

What element in the soil is most likely to be lacking when the leaves of trees and other plants not indigenous to the country have a tendency to be a very light green or even white? The soil is sedimentary and the natural growth mostly mesquite.—C., Mercedes, Texas.

We do not know that we ever heard of a case exactly like this, and will ask our subscribers to give us their experience. What is the trouble with this soil, or is it a matter of climate?

### Stock For Peaches In Moist Soil.

What kind of root will stand the dampest soil when peach and almond root drown out?—M. E. M., Ritchey, Amador County.

The myrobalan plum is the proper root in moist conditions and will stand far more moisture than either peach or almond. Many nurserymen are now using it almost entirely as stock for budding or grafting peaches and plums.

### Splitting Pits.

Many peaches in the Napa Valley are splitting badly at the pits. They also turn yellow and fall off before they are ripe. The trees appear to be in perfect health. None seem to be immune except Hale's Early, Early Alexander and Early Foster. What is the cause and remedy?—Subscriber.

We would recommend that these peach trees be sprayed with either lime, salt and sulphur wash or Bordeaux mixture late in the winter or early spring. There is nothing to be done for them now. Climatic conditions may affect the proper development of the fruit, but fungous diseases are responsible for most of the trouble.—J. W. M.

### Tomato Blight.

What is the matter with my tomato vines? They look as if they were mildewed. There is bloom on the vines, and they are having a struggling growth. Is there anything I can put on them to remove this?—W., Monrovia.

This is most likely blight and a plant once so far gone as to plainly be noticed with the naked eye might as well be dug up and burned. Spraying with Bordeaux is the only remedy but it should be used as a preventive. I have never been able to restore a plant that had a well developed case.—Q. A. L.

### Gum Leaves for Mold.

Can I use blue gum leaves in preparing leaf mold for potting plants? Can I use water which is slightly alkaline in making Bordeaux mixture? A. R. S., Santa Barbara.

We can see no objection whatever to the use of eucalyptus leaves and imagine they would make a good leaf mold. We have noticed they do not decay very quickly perhaps because of being filled with oil, but in time they work down to a fine mold.

No possible injury could result from the use of alkali water in making the mixture.

### Answers To Bee Questions.

In answer to G. Weidman Graff, Canton, China; Ecole d'Apiculture De Band, France; James C. Forbes, Westchester ,N. Y.; C. and many others: The "F. W. Bee Keeper" is no longer published separately. Its subscribers are being served with the present journal.

### Foul Brood Law.

J. W. Antioch, W. A. T. Bishop: No, the amendment to the Foul brood law did not pass at the last session of the legislature. Nor, is there much prospect of its passage in its


## Report of the Condition of
# The First National Bank of Los Angeles
### At the Close of Business June 23, 1909

**RESOURCES**

| | | |
|---|---|---|
| Loans and Discounts | | $10,950,001.15 |
| Overdrafts, Secured and Unsecured | | 35,040.49 |
| U. S. Bonds to secure circulation | | 1,250,000.00 |
| Bonds to secure U. S. Deposits | | 355,000.00 |
| U. S. Bonds on hand | | 5,000.00 |
| Premiums on U. S. Bonds | | None |
| Bonds, Securities, etc. (Bonds only) | | 898,930.00 |
| Due from National Banks (not Reserve Agents) | $1,128,953.01 | |
| Due from State Banks and Bankers | 347,235.45 | |
| Due from Approved Reserve Agents | 913,420.05 | |
| Checks and Other Cash Items | 181,385.26 | |
| Exchange for Clearing House | 213,618.79 | |
| Notes of Other National Banks | 9,760.00 | |
| Fractional Paper Currency, Nickels and Cents | 6,965.93 | |
| Lawful Money Reserve in Bank, viz.: | | |
| Specie | $1,975,863.00 | |
| Legal Tender Notes | 329,800.00 | |
| | 2,305,663.00 | |
| **Cash and Sight Exchange** | | 5,107,001.49 |
| Redemption Fund with U. S. Treasurer | | 62,500.00 |
| **Total** | | $18,663,473.13 |

**LIABILITIES**

| | | |
|---|---|---|
| Capital Stock Paid In | | $ 1,250,000.00 |
| Surplus Fund | | 250,000.00 |
| Undivided Profits, Less Expenses and Taxes Paid | | 1,429,296.30 |
| National Banks Notes Outstanding | | 669,397.50 |
| Due to Other National Banks | $ 1,433,154.89 | |
| Due to State Banks and Bankers | 984,327.84 | |
| Due to Trust and Savings Banks | 1,073,436.71 | |
| Individual Deposits Subject to check | 10,637,675.07 | |
| Dividends Unpaid | 825.00 | |
| Demand Certificates of Deposit | 124,788.06 | |
| Certified Checks | 18,008.15 | |
| Cashier's Checks Outstanding | 433,336.77 | |
| U. S. Deposits | 350,365.84 | |
| Letters of Credit | 8,861.00 | |
| **Total Deposits** | | 15,064,779.33 |
| **Total** | | $18,663,473.13 |

No Real Estate. No Furniture and Fixtures. No Premium on U. S. Bonds.

STATE OF CALIFORNIA, County of Los Angeles. ss.

I, W. T. S. Hammond, Cashier of the above named bank, do solemnly swear that the above statement is true to the best of my knowledge and belief.

W. T. S. HAMMOND, Cashier.

Subscribed and sworn to before me this 24th day of June, 1909.

HORACE B. KING, Notary Public.

Correct—Attest:

J. M. ELLIOTT, G. E. BITTINGER, WALTER J. TRASK,
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} Directors.

present shape at the next. The merits or demerits of said bill will be discussed in the Cultivator later on. Henry E. Horn.

### Hay For A Cow For 30 Days.

How much hay will a cow eat in one month if kept in a corral where there is no other feed?—J. S. H., Kingsburg.

One thousand pounds per cow is the usual allowance. If the hay is extra good alfalfa, eaten clean, less will do. In buying hay for dairy use, we count two cows to a ton for every thirty days. This allows for any that may be over cured and have strawy stems.—M. E. S.

### Yellow Jackets.

Please tell me how to keep yellow jackets from the grapes when drying raisins?—J. S., Morgan Hill.

We do not have yellow jackets in the Great Valley. If the pest was too much to be endured and nests could not be readily destroyed, I should send the grapes to the cannery. An organized farmers' club offering the boys so much to destroy yellow jacket nests might be organized if the neighborhood is sufficiently settled.—M. E. S.

### Trouble With Cud.

I have a Jersey cow which seems to have too large a cud. It seems to be in two parts, gets wedged in between teeth and cheek on both sides of her mouth, and she can't eat till I remove it. Why does this occur, and what can I do to remedy the trouble?—A. A. F., Gardena.

Examine the cow's mouth for sharp and irregular teeth or foxtail. If there is no trouble there, then give her a dose of epsom salts (one pound for a dose), adding some ginger and a tablespoon of baking soda. Then see that she has enough long straw or roughage of some sort to make a good matted cud. Cows that are fed on lawn clippings without any long stuff mixed in are often affected this way.—M. E. S.

### Holstein Association.

Why do you think the Holstein Association better than the other associations. Are their papers more correct?—J. S., Kerman.

I have not said that the Holstein Association is better, but as I have had dealings with horse associations, swine breeders and the rest, I certainly appreciate its wonderful system and the prompt attention that the secretary of the Holstein Friesian Association gives to requests, and the short time it takes to register or transfer an animal. I have waited from seven to ten months for horse papers and for pig papers nearly as long. When an animal is sold the purchaser naturally blames the seller if there is any delay in sending the papers. Blame is never agreeable even when we are at fault, but when we are waiting and writing for papers and cannot get them, we feel like giving thanks that we can secure the cattle papers within a short time.—M. E. S.

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The hop crop in Oregon is reported a serious failure this year. According to the Salem Statesman the Gervais section will produce only about a 40 per cent crop and all estimates agree that the total output for the state will not exceed 50,000 bales. Many place it as low as 40,000 bales. Owners are now looking for a fifteen to twenty cent market.

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The Colorado has passed its high water mark and is now receding.

# Legal Queries

**Edw. L. Payne, attorney, 301-304 Douglas Building, Los Angeles, will answer legal queries in this department.**

**Immediate mail replies cannot be given except where fee to Mr. Payne is paid. When replies are wished in Cultivator address query to 115½ N. Broadway, Los Angeles.**

### Personal Property—Real Estate.

About forty days ago I sold my orange grove, retaining possession for sixty days. Nothing was said about the fertilizer in the corral. Does it belong to me, together with what has been made since?—W., Ontario.

There is some difference of opinion arising by reason of conflicting decisions in some of our states, as to whether manure made on the farm is part of the real estate, or is personal property, a number of the states holding that it is part of the soil, where it is made in the ordinary course of husbandry and consists of collections from stable and barn yards, or of composts formed by an admixture of these with soil or other substances; but the opinion, most in keeping with our statutory law on the subject of fixtures, holds that when it is lying around in heaps it does not pass as real estate, but if mixed with, or scattered upon the soil with the intention of rendering the soil more productive or otherwise utilizing it in connection with the soil, for the benefit of the estate, it is real property. So far as I know, the question has not been settled in this state by decision of the Supreme Court.—E. L. P.

### Water Right.

There is a stream running through my land that after the first of July is fed entirely by a spring on a neighbor's land, running about two inches. I have just filed an appropriation for five inches of water for irrigation purposes. My neighbor has not made use of the water for at least ten years. He now threatens to put in gas engine and pump. Has he a right to do this? I have filed my appropriation according to law.—Subscriber.

Water rights can not be acquired by appropriation where the water is on private property. If the appropriation had been made and completed bebefore the land, on which the spring is situated, passed into private ownership, the appropriator would have the prior right to the water from the spring.

The foregoing answers the injuiry, but it may be of interest to readers of the Cultivator to know that where a spring is fed solely by percolating waters which seep into it from swamp or wet lands surrounding the same, and not by any running stream of water, there is no water at such spring to which the right of use can be acquired, either by statutory appropriation or by adverse user, and no action will lie in favor of one who has collected the water at the spring in a reservoir and transmitted it by a pipe for use, against one who has diverted the water from the reservoir by means of an excavation on his own land for irrigation and domestic purposes. This is for the reason that percolating water is considered as a part of the soil, and is as much the property of one who acquires the land, as is the soil itself.

To make any appropriation of water valid, the appropriation must have been made while the land, at the point where the appropriation was made, was public land.

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Leroy Anderson has been re-appointed superintendent of the University Farm School at Davis.

# Classified Liners

## MACHINERY.

THE R. KELLY MACHINERY CO., Mission Road and Macy Street, Los Angeles, Cal., carry a large stock of secondhand machinery, boilers, steam and distillate engines, steam and power pumps and jacks, air compressers, water and oil tanks, pulleys, belting, hangers, etc. 25 car loads pipe and fittings, all sizes. Lot of iron fence posts, fine for wire fence.

FOR SALE—SECOND HAND WINDmills, tanks, pumps, engines, hay rake, cultivator, mower, wood sawing outfit, spraying outfit, light wagons, anything a rancher wants secondhand. DEMMITT CO., 120 N. Main St., upstairs, Los Angeles, Cal.

FOR SALE—RENT OR EXCHANGE, boilers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main St., Los Angeles, Cal.

FOR SALE—ALAMO GASOLINE ENgines, large stock just received from the works. See the engines and get our prices. Prices right. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

EXCHANGE—ELECTRIC MOTOR TO trade for gas engine. MACHINERY EXCHANGE, 117 Bruno St., Los Angeles, Cal.

FOR SALE—DE LAVAL SEPARATOR, in perfect condition, capacity 400 lbs. per hour. W. J. WALLACE, R. D. 1, Riverside, Cal.

FOR SALE—ONE TEN AND ONE twelve H. P. Union gasoline engines, both snaps. Corner Main & Bruno Sts., Los Angeles, Cal.

FOR SALE—CENTRIFUGAL PUMP and gas engine. Good as new. H. H. SIMPERS, 945 N. Main St., Los Angeles Cal.

## TREES.

FOR SALE—ABOUT 250 VALENCIA orange trees. Will sell in ground at right prices. Come and see them. M. E. DILLINGHAM, San Gabriel, one mile north of Masonic Home. Phone Black 198, Alhambra Home.

FOR SALE—1500 EUREKA LEMONS, 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. B. WARNER, Santa Ana, Cal.

FOR SALE—EUCALYPTUS PLANTS, small orders or car lots, also take contracts growing any quantity. A. BLASINGAME, 15-23 Nineteenth St., Santa Monica, Cal.

## FERTILIZERS.

NOW IS THE TIME
to fertilize for results in the coming crop.
ARMOUR'S "O.T.M.", "B.B.&P.", and "5-8-2" grow big crops and build up the soil. They have been doing it for years.
THE ARMOUR FERTILIZER WORKS, Los Angeles, Cal.

## HOGS.

REGISTERED BERKSHIRE AND POland China hogs, both sexes. C. A. STOWE, Stockton, Cal.

## SHOPPING BY MAIL.

PURCHASE THROUGH US ANYTHING desired. Ask about our new system of teaching telegraphy by mail, full set instruments free. COLUMBIA COMMERCIAL COMPANY, 204 East 9th St., Los Angeles, Cal.

The shaping of a tree should be done when it is young. The practice of allowing useless limbs to grow only to be sawed or chopped off when the tree is large is a mistake, as every undesirable limb grown deprives the other limbs of so much food and nourishment. Begin with the first year and train the tree to the shape desired, leaving only such branches as will be retained later on.

### BIG APPLE CROP IN SIGHT.

From all indications the apple crop this year will be a bumper, and farmers already are planning to take care of the yield. On account of the great demand for cider, many fruit men will soon begin getting busy buying new machinery for that purpose. The name of The Hydraulic Press Mfg. Company of Mt. Gilead, Ohio, has been associated with cider-making machinery for so long, and their presses are giving such universal satisfaction, that we do not hesitate to recommend them to our readers who are thinking of buying machinery for cider making.

They also make Apple Butter Cookers, Vinegar Generators, and everything for the cider and vinegar man.

Write them for their new catalog, which contains some valuable information. Mention this paper, and address The Hydraulic Press Mfg. Company, 123 Lincoln Ave., Mt. Gilead, Ohio.

## FARM LANDS FOR SALE.

YOU CAN MAKE MONEY ON THIS fine dairy and beet ranch. I own one of the finest dairy and beet ranches in the San Joaquin Valley, located on the Santa Fe Railway, between Corcoran and Tulare. It has two water rights with plenty of water, is fenced and cross-fenced, and has good house, large cattle barn and out buildings. Two hundred acres are in alfalfa, part of which was recently seeded. Balance in grain. Eighty to one hundred cows are kept at present, and about $5000 is realized annually from the dairy products alone. With careful management the place will pay $10,000 yearly. Two beet sugar factories are within easy reach. Owner is no rancher and wants to sell or lease to responsible party with some capital. Price $36,000. Address owner, ULRICH KNOCH, 350 S. Los Angeles St., Los Angeles, Cal.

FOR SALE—SEVEN HUNDRED AND three (703) acres of choice grain land, six miles from Oakdale, Stanislaus County, California, on the Sierra Railroad, connecting with the Santa Fe at Oakdale, and three miles from Orange Blossom Colony. Land all fenced; dwelling house; barn, windmill, cement water tank with capacity of 20,000 gallons. Price per acre, $25; half cash, balance on mortgage. If not sold by August 1st, 1909, will be open for rent for 3 years. Address A. S. EMERY, Oakdale, Cal.

FRESNO COUNTY ORANGE RANCH of 20 acres for sale.—13 acres of bearing trees, 7 acres of young Valencias. This is the only orange orchard in this district for sale that we know of. Write us for particulars. THE CITRUS LAND COMPANY, Sanger, Fresno Co., Cal.

FOR SALE—PALOMITAS VINEYARD 194 acres; 106 planted to choice Emperor, Malaga and Muscat vines, 3 to 5 years old. Part or all. Half cash, balance on easy terms. MRS. M. E. SHERMAN, Fresno, Cal.

FOR SALE OF EXCHANGE FOR LOS Angeles or Orange County walnut land, 140 acre mountain apple, berry, vegetable and chicken ranch, near Santa Cruz. WILLIAM RICHARD, owner, 438 River St., Santa Cruz, Cal.

BUY A LINDSAY ORANGE GROVE—20 acres just coming into bearing; ¾ mile east of high school, ¾ mile from mountains; plenty water, piped; good land; good buildings; choice neighborhood. For sale by owner at bargain. Box 143, Lindsay, Cal.

GRAIN AND STOCK FARM, 316 acres 3 miles from Oakdale, fenced in 4 fields, hog-tight, with stock and implements; by owner. Price $10,000. Box 121, Oakdale, Stanislaus County, Cal.

I MAKE A SPECIALTY OF ORANGE and alfalfa ranches and exchanges. 826 Main St., Room 9, Riverside, Cal. N. R. BELL.

## POULTRY.

BUFF PLYMOUTH ROCKS, BRED TO lay, win and pay. My birds have won more prizes than all competitors combined. Eggs and stock. Circular, DR. W. H. HOLMES, Slavin Block, Pasadena, Cal.

THOROUGHBRED MALTESE HEN pigeons, $1.50 pair. JOHN HERING, Mill Valley, Cal.

HOUDAN COCKS AND TRIOS FOR sale cheap to make room. MRS. R. HEGI, Box 272, Dixon, Cal.

PURE PIT GAMES—YOUNG TRIOS, quail size, $3.50. O. L. CRANE, Route 3, Santa Rosa, Cal.

## EGGS FOR HATCHING.

WHITE COCHIN BANTAMS, THE fluffy little aristocrats of the barnyard. Eggs from first prize stock, Oakland and San Jose, 1908, for $1.50 per setting (15). C. H. G. RUNDE, 2105 Shattuck Avenue, Berkeley, Cal.

## CATTLE.

AM CLOSING OUT MY FINE HERD of fifteen cows, nearly all just fresh. High testers and range from three to six and one-half gallons a day. Would like an offer on entire herd. E. C. LAUX, Inglewood, R. F. D. 87, Cal. Just west of Neff Station.

REGISTERED JERSEY BULL, COW and heifer. Bull by Recorder and Brown Bessie's Modita. Cheap if taken at once. Box 163, Elk Grove, Cal. Cal.

FOR SALE OR EXCHANGE—ABOUT 40 dairy cows and about 25 head of other stock, all in good condition. Will exchange for horses. Address, N. ROUFF, Palmdale, Cal.

## HORSES.

FOR SALE—A FEW HEAD OF UNbroken horses, three year old and past; ten two-year-old Poll Angus bulls; two Durham bulls; several yearling and two-year-old mules; three spring wagons. Address CHAS. W. HART, Farmersville, Cal.

## ROOTED CUTTINGS—WHOLESALE.

STRONG OUT DOOR GROWN ROOTED cuttings. All kinds of plants. Send for 1, 2, 3c list. GEM NURSERY, Los Gatos, Cal.

## When Your Tools Need Grinding

It is but the work of a minute to sharpen a chisel, a plane, a knife or any edged tool on a **Keen Kutter Grindstone.**

Made of very carefully selected Berea grit—mounted on an extra braced tubular frame that never sways or "wabbles." Ball bearings and double tread make it run as easy as a bicycle. With this grindstone and an outfit of

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you are always ready for the finest or heaviest work.

Keen Kutter Tools are tempered for lasting edges and once sharpened stay sharp indefinitely.

For the home they are ideal, doing better work with less attention than the ordinary nameless kinds.

Remember the name and look for the trademark next time you buy any tool—whether it be a hammer or a saw, an ice pick or a can opener, a bread knife or a cleaver. Then you are sure of satisfaction; for all Keen Kutter Tools are guaranteed.

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## SLUMBERLAND MATTRESS

SLUMBERLAND is a name that we want every home to become familiar with. We believe we have the best mattress on the market, and in putting it into homes we are confident that it will prove a splendid advertisement for us.

Our SLUMBERLAND mattress is a friend to wide awake people. It is a good sleep producer. Nothing makes one feel better or more like undertaking a hard day's work than a good night's rest. You will sleep better if you own a SLUMBERLAND.

It is composed of the very choicest materials. It is made by our best mattress makers. It comes in any size.

**It Sells for $16, $18 and $20**

**PEASE BRO'S.**
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WE PAY FREIGHT — FULLY GUARANTEED

## WOULD YOU LIKE TO SLEEP ON A MATTRESS

That is guaranteed to be absolutely hygienic?

That insures healthy, comfortable sleep?

That possesses all the good qualities of the finest hair mattress at about one-half the cost?

That is made in a factory where every precaution has been taken to insure the most perfect sanitary conditions?

That is made by skilled workmen in the most approved manner and the latest style?

That is guaranteed to give perfect satisfaction or your money promptly and cheerfully refunded?

That costs $15.00 for the full size, $12.50 for the ¾ size, $10.00 for the single size and is positively the best mattress made anywhere at these prices?

A Postal Card Addressed to the

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**Sacramento, California**

Will bring you a booklet describing their famous **"Kapokeen"** Mattress, which has all the good points mentioned and many more. Write today

When writing advertisers, mention Cultivator.


# Household Department

### OPPORTUNITY.

They do me wrong who say I come no more
When once I knock and fail to find you in;
For every day I stand outside your door,
And bid you wake and rise to fight and win.
Wail not for precious chances passed away,
Weep not for golden ages on the wane;
Each night I burn the records of the day,
At sunrise every soul is born again.
Laugh like a boy at splendors that have sped,
To vanished joys be blind and deaf and dumb;
My judgments seal the dead past with its dead,
But never bind a moment yet to come.
Though deep in mire, wring not your hands and weep,
I lend my arm to all who say: "I can."
No shamefaced outcast ever sank so deep
But he might rise and be again a man.

—Walter Malone.

### A VISIT TO THE OLD HOME.

"HELLO, Jim! where have you been lately?" shouted a broker the other evening to a portly, finely dressed man in the corridor of the Palmer House. The gentleman stopped, shook hands with his friend, and replied: "I've been home to see my old father and mother, for the first time in sixteen years, and I tell you, old man, I wouldn't have missed one day of all that visit for all my fortune."

"Kind of good to visit your boyhood home, eh?"

"You bet. Sit down. I was just thinking about the old folks and feel talkative. If you have a few minutes to spare, sit down, light a cigar and listen to the story of a man who in the chase for wealth had almost forgotten his father and mother."

They sat down and the man told his story.

"How I came to visit my home happened in a curious way. Six weeks ago I went away duck shooting. I had a lunch put up for me, and you can imagine my astonishment when I opened the hamper to find a package of crackers wrapped up in a piece of the little patent-inside, country weekly published at my home in Wisconsin. I read every world of it, advertisements and all. There was George Billing, who was a schoolmate of mine, advertising ham and salt pork, and another boy was postmaster. By George! It made me homesick, and I determined then and there to go home, and go home I did.

"In the first place I must tell you how I came to Chicago. I had a tiff with my father and left home. I finally turned up in Chicago with a dollar in my pocket. I got a job running a freight elevator in the very house in which I am now a partner. My haste to get rich drove the thoughts of my parents from me, and when I thought of them, the hard words that my father last spoke to me rankled in my bosom. Well I went home. I tell you, John, my train seemed to creep, I was actually worse than a schoolboy getting home for vacation. At last we neared the town. Familiar sights met my eyes, and upon my word they filled with tears. There was Bill Scott's red barn, just the same; but—great Scott! what were all the other houses? We rode nearly a mile before coming to the station, passing many houses, of which only an occasional one was familiar. The town had grown to ten times its size when I knew it. The train stopped and I jumped off. Not a face in sight that I knew, and I started down the platform to go home. In the office door stood the station agent. I walked up and said: 'Howdy, Mr. Collins?' He stared at me and replied 'You've got the best of me, sir.'

"I told him who I was and what I had been doing in Chicago, and he didn't make any bones in talking to me. Said he: 'It's about time you came home. You in Chicago rich, and your father scratching gravel to make a bare living!'

"I tell you, John, it knocked me all in a heap. I thought my father had enough to live upon comfortably. Then a notion struck me. Before going home I telegraphed to Chicago to send me $1000 by first mail. Then I went into Mr. Collin's back office, got my trunk in there and put on an old hand-me-down suit that I use for fishing and hunting. My plug hat I replaced by a soft white one, took my valise in my hand and went home. Somehow the place didn't look right. The currant bushes had been dug up from the front yard, and the fence was gone. The house looked smaller, somehow, too. But I went up to the door and rang the bell. Mother came to the door and said: 'We don't wish to buy anything today, sir.'

"It didn't take me a minute to survey her from head to foot. Neatly dressed, John, but a patch and a darn here and there, her hair streaked with gray, her face thin, drawn and wrinkled. Yet over her spectacles shone those good, honest, benevolent eyes. I stood staring at her, and then she began to stare at me. I saw the blood rush to her face, and with a great sob she threw herself upon me and nervously clasped me about the neck, hysterically crying: 'It's Jimmy, it's Jimmy!'

"Then I cried too, John. I just broke down and cried like a baby. She got me into the house, hugging and kissing me, and then she went to the back door and shouted, 'George!'

"Father called from the depths of the kitchen, 'What do you want, Carline?'

"Then he came in. He knew me in a moment. He stuck out his hand and grasped mine, and said sternly: 'Well, young man, do you propose to behave yourself now?' He tried to put on a brave front, but he broke down. There we three sat like whipped school children, all whimpering. At last supper-time came, and mother went out to prepare it. I went into the kitchen with her.

"'Where do you live?' she asked.

"'In Chicago,' I replied.

"'What are you working at now, Jimmy?'

"'I'm working in a dry-goods store

"Then I suppose you don't live very high, for I hear of city clerks who don't get enough money to keep body and soul together. So I tell you, Jimmy, we've nothing but roast spareribs for supper. We're poorer nor Job's turkey.

"I told her I would be delighted with the spareribs, and to tell the truth, John, I haven't eaten a meal in Chicago that tasted as good as

those crisp roasted spare-ribs did. I spent the evening playing checkers with father, while mother sat by telling me all about their misfortunes, from old white Molly getting drowned in the pond to father's signing a note for a friend and having to mortgage the place to pay it. The mortgage was due inside of a week, and not a cent to meet it with—just $800. She supposed they would be turned out of house and home, but in my mind I supposed they wouldn't. At last nine o'clock came and father said: 'Jim, go out to the barn and see if Kit is all right. Bring in an armful of old shingles that are just inside the door and fill up the water-pail. Then we'll go off to bed and get up early and go fishing.'

"I didn't say a word, but I went out to the barn, bedded down the horse, broke up an armful of shingles, pumped up a pail of water, filled the woodbox and then we all went to bed. Father called me at 4:30 in the morning and while he was getting a cup of coffee I skipped over to the depot, cross lots, and got my bass rod. Father took nothing but a trolling line and a spoon hook. He rowed the boat with the trolling line in his mouth, while I stood in the stern with a silver shiner rigged on. Now, John, I never saw a man catch fish as he did. To make a long story short, he caught four bass and five pickerel, and I never got a bite.

"At noon we went ashore and father went home, while I went to the postoffice. I got a letter from Chicago with a check for $1000 in it. With some trouble I got it cashed, getting paid in $5 and $10 bills, making quite a roll. I then got a roast joint of beef, and a lot of delicacies, and had them sent home. After that I went visiting among my old schoolmates for two hours, and went home. The joint was in the oven. Mother had put on her only silk dress and father had donned his Sunday-go-to-meeting-clothes, none too good, either. This is where I played a joke on the old folks. Mother sat in the kitchen watching the roast. Father was out in the barn, and I had a clear coast. I dumped the sugar out of the old blue bowl, put the thousand dollars in it, and placed the cover on again. At last supper was ready. Father asked a blessing over it, and he actually trembled when he stuck his knife in the roast.

"'We haven't had a piece of meat like this in five years, Jim,' he said, and mother put in with, 'And we haven't had any coffee in a year, excepting the times when we went a-visiting!' Then she poured out the coffee and lifted the cover of the sugar-bowl, asking as she did so, 'How many spoonfuls, Jimmy?'

"Then she struck something that wasn't sugar. She picked up the bowl and peered into it, 'Aha, Master Jimmy, playin' your old tricks on your mammy, he? Well, boys will be boys.'

Then she gasped for breath. She saw it was money. She looked at me, then at father, and then with trembling fingers drew the great roll of bills out.

"Ha! ha! ha! I can see father now as he stood there, then, on tiptoe, with his knife in one hand, fork in the other and his eyes fairly bulging out of his head. But it was too much for mother. She raised her eyes to heaven and said slowly, 'Put your trust in the Lord, for he will provide.'

"Then she fainted away. Well, John, there's not much more to tell. We threw water in her face and brought her to and then we demolished that dinner, mother all the time saying 'My boy Jimmy! my boy Jimmy!'

"I stayed home a month. I fixed up the place, paid off all the debts, had a good time, and came back again to Chicago. I am going to send $50 home every week. I tell you, John, it's mighty nice to have a home."

John was looking steadily at the head of his cane. When he spoke he took Jim by the hand and said: "Jim, old friend, what you have told has affected me greatly. I haven't heard from my home way out in Texas for ten years. 'I'm going home tomorrow."—Exchange.

# About the House

A COOK BOOK—not a printed one—but one written in pencil on the blank leaves of an old account book—fell into my hands the other day and I have copied several of the recipes—they are tested ones—that I thought some of the Cultivator readers might like to try.

**White Cake.**

Two cups of sugar and one-half cup of butter creamed together. Sift two level teaspoons of baking powder with two cups of flour and add to the creamed butter and sugar. Mix until like corn meal. Moisten with one cup of water, then add the whites of four eggs, well beaten. Sometimes it is necessary to add more flour—a half cup or more.

**Sponge Cake.**

One and one-half cups of sugar, two-thirds of a cup of water, four eggs well beaten, two level teaspoons of baking powder, and enough flour to make the batter of the proper consistency. Bake in a rather quick oven.

**Cream Pie.**

One pint of cream, one and one-half cups of powdered sugar, and the whites of three eggs. Pour the cream over the sugar and let stand until the whites of the eggs have been beaten to a stiff froth. Add the beaten eggs to the cream and sugar and beat well. Flavor with nutmeg or vanilla.

**Pine Apple Tapioca Pudding.**

Soak one cup of tapioca in plenty of water for twelve hours. Drain and put the tapioca in a kettle with one-half can of sliced pineapple, cut in dice, the juice of two lemons, one-half cup of water, one and one-half cups of sugar. Cook slowly until almost clear, stirring gently every few minutes. Then whip the whites of three eggs to a stiff froth, and stir in. Pour into a mould at once and let stand until cold. Serve with whipped cream.

**Muffins.**

Two cups of flour and two level tablespoons of baking powder, one level teaspoon of salt, two rounding tablespoons of sugar, one egg, one cup of milk and one tablespoon of melted butter. Sift the flour, baking powder, salt and sugar together; beat the egg until light and add to the milk. Mix with the dry materials. Then add the melted butter. Stir just long enough to make a smooth batter. Bake in gem pans or muffin rings in a quick oven.

**Escalloped Salmon.**

Drain the liquor off a can of salmon, then add to the salmon one cup of rolled crackers, one cup of sweet milk, and season with salt, pepper and butter. Place in a buttered pan and bake for about fifteen or twenty minutes.

**Beef Loaf.**

Three and a half pounds of beef, six soda crackers, three eggs, two-thirds of a cup of milk, one scant tablespoon of salt, one-half teaspoon of pepper, one tablespoon of butter. Chop or grind the beef, add the crackers, rolled fine, then the milk, salt, pepper and melted butter. Mix thoroughly with the hands, add the eggs, and mix again. Make into a loaf like bread, and bake in a moderate oven one hour and a half.

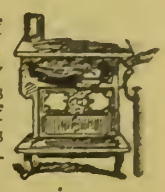
**Cheese Straws.**

Three tablespoons of grated cheese, three tablespoons of flour, a little salt and cayenne pepper, one tablespoon of melted butter, one tablespoon of water and the yolk of one egg. Mix into a dough, roll thin as for cookies and cut into strips five inches long and one-fourth or one-half inch wide. Then bake about ten or fifteen minutes.

**Fudge.**

Two cups of sugar, one cup of milk, one-fourth cake of unsweetened chocolate. Cook, stirring it until it will form a soft ball when dropped in cold water. Remove from the fire and stir until it is almost cold. Then pour in buttered pans and cut in squares.—Elbepe.


**Hague Domestic Oil Burner**



Showing the Method of Attaching to Cook Stove. A device for using low grade distillate. Saves 40 per cent of cost of coal or city gas—let us prove it. Write for circular.

**Hague Domestic Oil Burner Co.**
214 Winston St., Los Angeles, Cal.

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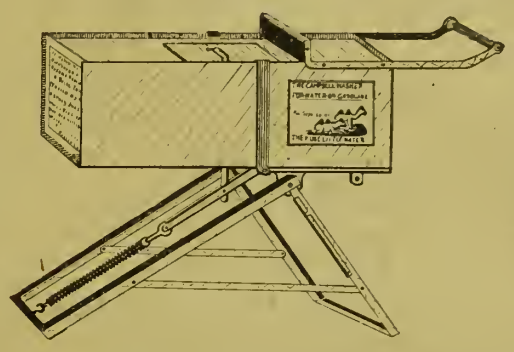

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# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, June 30, 1909.

### Butter.

Butter is still stationary with no promise of early change.

**Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.**

Creamery per roll ... .....55@57½
Cooking ... ... ..... .....23¾

### Cheese.

Southern California Anchor .....18
Northern fresh ..... ..... .....16
Anchor Young America ..... .....19
Domestic Swiss .... .....20
Imported Swiss ..... .....30

### Eggs and Poultry.

The market on eggs has advanced materially and now shows 30 cent quotations for extras while case count has advanced only a cent or to 25 cents.

Paying price f. o. b. L. A. are:
Eggs ..... ..... .....28@30
Case count buying price .... .....25

Dealers pay for live poultry f. o. b. L. A.:
Hens per pound 3½ up ... .....14
Stags and old roosters.....8
Fryers 2 to 2¾ lbs .....19
Broilers 1¼ to 2 lbs .....19
Broilers 2 lb ..... .....30
Roasters 3 lbs and up ..... .....20
Turkeys ..... ... ..... .....23
Geese ..... ..... .....13
Ducks .... ..... .....13@14
Squabs .... ..... .....1.25@1.75

### Live Stock.

**The following quotations are f. o. b., Los Angeles, on all stock.**

Hogs from 175 to 200 pounds.....7½
Prime steers ..... .....4@4¼
Heifers ..... ..... .....3½@3¾
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.25@3.50
Wethers ..... ..... .....4.50@5.00

### Potatoes.

Wholesale prices are:
Sweets per box ..... .....3.50
New per box ..... .....59@60
New per cwt ..... .....1.35@1.50
Early Rose local ..... .....1.50
Burbank local ..... .....2.75

### Onions.

**Wholesale quotations:**
Coachellas crates ..... .....1.00
Coachellas sacks ..... .. .....1.25

### Vegetables.

Artichokes locals ..... .....75
Asparagus ..... .... .....8@9
Beets per sk ..... ..... ..90
Beans string ..... ..... .....5@6
Bell peppers ..... .....15
Cabbages per sack ..... .....50@60
Celery per doz .... .....1.10@1.35
Chili per lb ..... .....25
Chili dried ..... .....9@10
Cucumbers per box .....40@50
Cauliflower per crate ..... ..1.25@1.50
Carrots per sk .... ..... ....90
Corn per sack .....60@70
Egg plant ..... ..... .....8@10
Green onions per doz bunches ..15@20
Horseradish per lb ... .... .....12
Summer squash per box .....30@40
Lettuce choice ..... .....75
Mushrooms per basket .....3.00
Oyster plant .... ..... .....50
Peas per lb ..... .....4@6
Parsley doz ..... .....25@40
Parsnips ..... ..... .....15@20
Rhubarb Northern per box .....2.00
Rhubarb Crimson Winter .....1.00
Radishes per doz ..... .....15@20
Spinach per doz ..... .....15@20
Turnips sk ..... ..... .....1.25
Tomatoes crate ..... .....1.00@1.25

### Citrus Fruits.

Navels ..... .....1.25@2.75
Grapefruit ..... ..... ..1.50@3.50
Lemons ..... .... .....1.00@2.25
Unpacked ..... ..... .....1.00@1.35

### Fresh Fruits.

**Wholesale prices on the market are:**
Apricots per crate .....75@85
New apples ..... ..... .....50
White Astrachan .... .....2.25@2.50
Blackberries ..... .... .....3@4
Cherries white ..... .....50@60
Cherries black ..... .....75@85
Cherries per lb .....6@7
Cherries, white bulk .... .....3@5
Currants ..... .... .....1.10@1.15
Figs ..... ..... .....50@1.25
Grapes 4 basket crate .....1.25@1.50
Gooseberries ..... ... .....10
Loganberries ..... ... ... .....3
Loquats per lb ..... .....3
Peaches box ..... ... .....75
Pears box ..... ..... .....1.00@1.50
Raspberries ..... .... .....4@5
Strawberries ..... .....3@4
Watermelons per lb ..... ....2@2½

### CANTALOUPES.

Prices on cantaloupes have sagged materially during the week. Reports from the Imperial country show that in excess of 60 cars are forwarded daily. Present prices are fair and fruit received is of good quality. It is practically certain that fair prices will prevail the entire season.

Cantaloupes specials ..... .....75
Cantaloupes ponies ..... .....1.00
Standards ..... ..... .....1.35

### Dried Fruits.

Wholesale prices are:
Apricots ..... ..... .....8@9
Evap apples fy per lb ..... .....10@11
Figs loose ... ..... ..... .....5
Peaches ..... ..... .....5@6
Pears ..... ... ..... .....9
Plums pitted ..... .....8@9
Nectarines ..... ..... .....7½@9
Prunes ... ... .....7@8

RAISINS—Muscatels, 2-crown, loose, 50-lb. boxes, lb., 3½c; do., 3-crown, 4c; do., 4-crown 5c; sultanas, bleached, lb., 9c; do., unbleached, 3½@4c; new seeded raisins, 16-oz. packages, 6c; do., 12-oz. packages, 5c.

### Beans Dried.

Wholesale prices are:
Pink No. 1 ..... .....3.75
Limas per ctl ..... .....4.50
Black eyes ..... ..... .....3.50
Lady Washington ..... .....5.75
Small White ..... .....6.50
Garvanzas ..... ..... .....4.50

### Nuts.

Almonds IXL per lb ..... .....15
Pecans polished ..... .....15@17
Peanuts California ..... .....5
Walnuts No. 1..... .....12@13
Walnuts No. 2 ..... .....9@10

### Honey.

Wholesale quotations:
Extracted water white .. .....7
Extracted Light Amber .....5½@6
Comb Water White .... .....15
Comb white ..... .....14
Beeswax ..... ..... .....25

### Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:
New Barley hay .....13.00
New alfalfa local .... ....12.00@13.00
New alfalfa Imperial .....10.50@11.00
Wheat hay ..... .....13.50
Tame oat ..... .....15.00

### Grains.

Wholesale selling price f. o. b., Los Angeles:
Wheat new per ctl .... .....2.35@2.40
Kaffir corn ..... ..... ....2.00
Corn Eastern bulk ..... .....1.95
Egyptain corn ..... .....1.85
White oats ..... ..... .....2.25
Seed Rye .. ..... .....2.00

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn ..... .... .....2.00
Shorts ..... .... .....1.95
Bran ..... .... .....1.70
Cocoanut cake ..... ..... ....1.35
Cocoanut meal ..... .....1.85
Cottonseed meal ... .....1.25
Oil cake meal ..... .....2.50
Feed meal ..... ... ... .....2.05
Cracked wheat ..... .....2.50
Rolled Barley ... .... ..... ..1.60

## San Francisco Markets

SAN FRANCISCO, June 29, 1909.

### Butter.

Butter dropped materially soon after last quotations then advanced on Monday to 25½ or still ½ cent under last quotations. Market firm at present quotations.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:
California extras per lb .....26
California firsts ..... .....25
Cal Young America fy .....14½@16

### Cheese.

California flats ..... ....12@13½
Cal Young America fy ... ..14½@15½
Young American Oregon fy .....15½

### Eggs and Poultry.

Eggs are quiet with slight decline from last week's quotations.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:
Fresh ranch ..... .... ....21@25½
Hens per doz .... .....4.00@8.00
Roosters .... ..... ..4.00@10.00
Fryers per doz ..... .....5.00@6.50
Broilers ..... ..... .....2.50@4.50
Geese per pair .... .....1.75@2.00
Ducks young .... ..... ....5.00@8.00
Pigeons young .. .... ....1.00@2.00

### Live Stock.

San Francisco prices gross weight:
Steers ..... ..... .....3@4
Cows and heifers ..... .....2@3¼
Hogs ..... .... .....4@7¼
Calves per lb ..... .....3½@5
Milk lambs ..... .....4¾
Wethers No 1 ..... .....3¾@4
Ewes No 1 ..... .....3@3¼

### Potatoes.

Wholesale market quotations:
River white fy sacks ..... ..1.50@1.65
Sweets per crate .... .....1.50@2.00
Oregons Burbanks .... .....1.50@1.75
New potatoes white ..... ..1.35@1.50

### Vegetables.

Wholesale quotations:
Asparagus per box .....75@1.75
Bell peppers per lb .....10@12½
Brussels sprouts per lb .....3@5
Cabbage per box .....2.00@2.25
Cauliflower doz ..... .....75@1.00
Carrots per sk ..... .....65@75
Celery per doz .....40@60
Cucumbers per box ..... .....40@50
Chili peppers per lb .....8@10
Corn per doz ..... .....10@25
Egg plant per lb .....6@8
Green peas per sk ..... .....90@1.25
Mushrooms per lb .....12½@25
Onions green per box ..... ....50@60
Rhubarb per box for bay .....50@1.00
Squash per box ..... .....30@40
String beans ..... .....1½@3
Tomatoes Cal ..... .....40@50
Tomatoes river ..... .....50@2.00
Wax Beans ..... .....4@6

### Onions.

New red per sk ..... .....40@60
Yellow ..... ..... .....75@1.00

### Citrus Fruits.

Navels ..... ..... .....1.75@3.00
Valencias ..... ..... .....2.00@2.75
Grapefruit ..... .... .....1.00@3.25
Lemons ..... ..... .....75@3.50
Limes ... ..... .....4.50@5.00

### Fresh Fruits.

Apricots box ..... .... .....25@40
Apples new green ..... .....50@1.00
Blackberries chest ... .....2.00@4.00
Cherries Black Tartarian .....50@75
Cherries loose black per lb .....3@7
Cherries Royal Anne .... .....40@50
Currants per chest .... ....4.00@6.00
Figs blk box single layer .....25@40
Grape Sweetwater .... .....75@1.25
Grapes, seedless ..... .....1.00@1.50
Gooseberries per drawer .... ...40@50
Logans per chest ..... ....1.50@2.50
Malindas per chest .... ....3.00@4.00
Cherry plums per box .... .....25@35
Peaches per box ..... .....40@75
Plums boxes ..... .....25@40
Plums Tragedy ..... .....60@85
Pears ..... ..... .....50@75
Longworth per chest ... ....4.00@6.00
Nutmeg melons ponies .....1.00@1.50
Nutmeg specials ..... .....30@40
Nutmeg standards ..... ....1.50@2.00
Pineapples per doz .... .....3.00@6.00
Pears box .... ..... .....75@90
Raspberries per chest .. ....4.00@6.00
Watermelons per lb .....5@6

### Dried Fruits.

Prunes 4-size basis .....2½
Santa Clara .....2¾
½c premium for larger sizes
Apricots per lb; Choice 8; Fancy 11. 12¾.
Peaches—Choice ...4; Fancy ...6@7½
Apples evap .... .....5@7½
Pears ..... ..... .....5@8½
Figs ..... .....2½@4
Nectarines ..... ..... .....5@6
Pitted Plums ..... ..... .....7@8

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do, No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12, 3¾c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached, 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

Walnuts soft shell .... .....9½
Hard shell ..... .....6@8½
Ne Plus Ultra .....10½
Almonds Nonp ..... .....11½
Pecans ..... .....15@17
Chestnuts ..... ..... .....2@10
Peanuts ..... .....5@6
Pine nuts ..... .....22½@25

### Beans Dried.

Limas ..... ..... .....4.00@4.25
Pink ..... ..... .....3.15@3.30
Small white ..... .....6.50@7.00
Large white ..... .....5.50@5.75
Black eyes .... ..... .....3.35@3.50
Red kidneys ..... .....3.60@3.70
Garvanzas .... ..... .....2.90@3.50
Bayo ..... ..... .....5.30@5.45
Horse beans ..... .....2.00@2.10

### Hops.

Hops 1908 crop ..... .....6@10
Old crop ..... ..... .....2@6
1909 crop contracted for at -....12@14

### Honey.

White comb ..... .....11@12½
Light Amber ..... .....9@10
Extracted W W ..... .....7@8
Extacted light amber .....6@7
Beeswax per lb .....24@28

### Hay.

Scott & Magner say: Arrivals of hay during the past week have been 4000 tons. We note a steady increase from week to week in arrivals here, and this week's receipts were the largest we have had since last summer.

The new demurrage law which went into operation last Monday, and which penalizes the receivers of hay here at the rate of $6.00 per car after 48 hours, has also had its effect. Hay must be moved immediately, or be subjected to a tax of $6.00 per day per carload. Therefore the practice of letting hay remain on the cars for several days until satisfactory sale can be made of it, must be discontinued. Arrangements therefore are necessary to move off each carload in, proper time, which occasions the forcing of a good deal of hay that, under the old conditions, was avoided.

There has been a little alfalfa hay arriving, but not enough to establish any active market.

We quote the general range of prices on today's market as follows:
Choice wheat hay .....18.00@20.00
No 1 wheat or wheat & oat 16.00@17.00
No 2 wheat or wheat & oat 14.00@15.50
Choice tame oat .....16.50@17.50
Other tame oat .... .....14.00@15.50
New crop wild .... .....11.00@15.50
Stock hay ..... .....7.00@9.00
Alfalfa ..... ..... .....10.00@14.00
Straw ..... ..... .....60@75

### Grains.

Wheat No 1 ..... .....2.10@2.15
Barley ..... ..... .....1.37½@1.40
Oats white ..... .....1.90@2.15
Oats gray ..... .....2.00@2.10
Rye new crop ..... .....2.10@2.15
Corn Egyptain .....1.60@1.65
Corn Cal sm round .....1.80@1.82½
Alfalfa seed, Cal .....16@18
Mustard yellow .....5¾@6
Mustard brown ..... .....3¾@4½
Millet ..... .....2½@3
Broom corn seed per ton .....23.50

### Feed Stuff.

Bran per ton ..... .....29.00@30.00
Feed cornmeal per ton .. ..39.00@40.00
Cracked corn per ton .....40.00@41.00
Rolled barley per ton ....30.00@32.00
Rolled oats per ton .....39.00@41.00
Oil cake meal per ton .....38.50@40.00
Cocoanut cake per ton .....25.00@26.00
Middlings ..... .... ....33.00@35.00
Mixed feed per ton .....26.00@30.00
Shorts ..... ..... .....31.00@32.00

## Deciduous Market

SACRAMENTO, CAL., June 26, 1909.

During the fore part of last week the deciduous market declined somewhat on peaches and Cots but yesterdays' sales show peaches as stronger with no change in the Cot situaton. The range of prices is as follows: Triumphs, 95c to $1.40; Cots, $1.15 to $1.55. The supply of Alexanders is finished and Triumphs are practically through, the principal variety going forward at the present time being Hales. St. Johns will come in next week. The supply of Cots in the Vacaville and Winters districts is practically exhausted, as far as shipping is concerned.

The market on plums has been very steady, with a good demand. Abundance averaged $1.35; Burbanks, $1.20 to $1.45; Clymans, 95c to $1.25; Climax, $1.40 to $1.75. Shipments of plums this week have been rather heavy, quite a quantity of Tragedies being shipped.

A few lots of Bartlett pears are moving from the Sacramento River district but so far the supply has been very light.

The cash prices to growers established by speculators are as follows: Hales, 40c; St. Johns, 50c; Imperials, 50c; Botans, 60c; Simoni, 85c; Triumphs, 55c; Ogons, 60c; Abundance, 60c; Red Junes, 70c; Climax, 75c; Tragedy, 85c; Burbanks, 75c.

The price established in the Sacramento River district for Bartlett pears is 70c per box, unpacked, bank delivery. Comparative shipments up to, and including June 25th, 1909, 737 cars; same date, 1908, 839 cars; same date, 1907, 572 cars.—T. C. Tucker.

## Citrus Market

LOS ANGELES, June 30, 1909.

While Valencias are holding their own, or even better, in all markets even to the auctions, seedlings, Mikes, sweets and other than Valencias are going begging. For some reason buyers seem to have cut off seedlings without any consideration whatever. Even the few navels yet to be disposed of seem to be commanding slight attention in the auctions.

The big money at this time is being received by the lemon men. The auctions are paying $6 to $8, and $7 f.o.b. Eastern points in common. This is brought about by the combination of excessively hot weather all over the East and the shortage in foreigns. California is forwarding very liberally which means a good return to practically all lemon people.

**Shipments.**

Shipments of all citrus fruit still hold up well to the hundred car per day mark. Total for the season of all citrus fruits since November 1st: 31,356 cars; of which there were 27,137

oranges, and 4219 lemons. At the same date last season, 25,707 cars; of which 22,342 were oranges and 3355 lemons.

NEW YORK, June 28.—Forty-four cars oranges, one grapefruit, and one car lemons sold. Market very steady, considering size of offering. Hot and muggy, threatening rain. Sale extended far into the afternoon.

| NAVELS— | Average. |
|---|---|
| Swastika L V W Brown | 3.15 |
| Carnation Moulton & Green Co | 2.45 |
| Trop. Queen Moulton & Greene Co | 2.15 |
| Carnation Moulton & Greene Co | 2.55 |
| Grove Queen Colony Exchange | 2.00 |
| Cactus High Fruit Growers Assn | 1.90 |
| Kaiser Hanson & Sears | 1.80 |
| Sultan Hanson & Sears | 1.60 |
| Rook Ely Gilmore Fruit Co | 2.15 |
| Hermosa Ely Gilmore Ft Co | 2.10 |
| Orchard National Orange Co | 3.20 |
| Standard National Orange Co | 2.65 |
| VALENCIAS— | |
| Elephant Orange Growers Cash As | 3.20 |
| Sunshine Orange Growers' Cash As | 3.05 |
| Plain Ends Orange Growers Cash A | 2.65 |
| Rook Ely Gilmore Fruit Co | 3.20 |
| Aurora E Peycke Co | 3.05 |
| Climax E Peycke Co | 2.75 |
| Rose Redlands Orange Growers' As | 3.35 |
| Old Mission C C Chapman | 5.00 |
| Golden Eagle C C Chapman | 3.20 |
| Independent Growers Ft Co | 3.05 |
| Brook Allen Break | 2.20 |
| SEEDLINGS— | |
| Titus Ranch San Marino GPA | 1.90 |
| El Toreador San Marino GPA | 1.80 |
| MEDITERRANEAN SWEETS— | |
| Chief Haight Bethel | 1.90 |
| Moon Halght Bethel | 1.40 |
| Gabriella Independent Ft Co | 1.90 |
| Euclid Euclid Fruit Co | 2.10 |
| Uplander Euclid Fruit Co | 1.70 |
| Narallmo Sparr Ft Co | 1.90 |

ST. MICHAELS—XXXX Brand, $1.95; Champion, $2.50; Old Mission, fancy, $2.75; Golden Eagle, $2.45; Gabriella, $2.45.

GRAPEFRUIT—Elephant (half boxes), $1.80; Cerrito (half boxes), $1.70; Gabriella, $2.40; Carnation, $2.45 and $2.25; Champion, $2.45.

BLOODS—Gypsy Queen (half boxes), $1.25.

LEMONS—Rook, extra choice, Ely Gilmore, $5.50; State Seal, $3.70; Hermosa, $3.45.

PITTSBURG, June 28.—Fifteen cars sold. Hot and sultry.

| NAVELS— | Average. |
|---|---|
| Pansy Colton OG Assn | 1.90 |
| Hawk SA Exchange | 2.35 |
| Greyhound SA Exchange | 1.60 |
| VALENCIAS— | |
| Caledonia T Strain | 3.10 |
| Searchlight SS Exchange Orange | 2.30 |
| Extra ST Exchange Glendale | 2.65 |
| Sunset SS Exchange Orange | 2.55 |
| Sunset SS Exchange Orange | 2.15 |
| SEEDLINGS— | |
| Carnation M and Green Co | 2.05 |
| Pomona SA Exchange | 2.00 |
| Parrot SA Exchange | 1.85 |
| JAFFAS— | |
| Lotengo Sparr Fruit Co | 3.00 |
| GRAPEFRUIT— | |
| Lotengo Sparr Ft Co | 2.00 |
| BLOODS— | |
| Palm Tree (Malta) AH Ex Prenda | 1.85 |
| ST. MICHAELS— | |
| Homer QC Exchange Corona | 2.05 |
| Pomona SA Exchange | 2.40 |
| LEMONS— | |
| Palm Tree AH Exchange | 3.25 |

PHILADELPHIA, June 28.—One navel 3 sweets, 3 mixed, 1 blood, 1 St. Michaels, 6 cars Valencias, 4 seeds sold.

| NAVELS— | Average. |
|---|---|
| Hawk SA Exchange | 2.10 |
| Native Sons King Ft Co | 2.20 |
| Salt Lake King Fruit Co | 2.10 |
| SEEDLINGS— | |
| El Molino San Marino GPA | 2.20 |
| El Toreador San Marino GPA | 1.85 |
| Red Globe (budded) Riverside Ex | 2.25 |
| Carnation M and G Co | 2.00 |
| La Mesa (budded) Riverside Ex | 2.25 |
| Pomona (budded) SA Exchange | 1.85 |
| VALENCIAS— | |
| Echo ST Exchange Pasadena | 3.15 |
| Aurora E Peycke Co | 3.65 |
| Native Sons King Ft Co | 3.45 |
| Butterfly Riverside Ex Riverside | 3.40 |
| Salt Lake King Fruit Co | 2.70 |
| Arroyo ST Exchange Pasadena | 2.85 |
| Rose Redlands OG Assn | 3.65 |
| Puck Speich | 3.40 |
| Climax A-C-G Ex Charter Oak | 3.20 |
| BLOODS— | |
| Squirrel AH Ex Arlington | 2.15 |
| Palm Tree | 1.95 |
| MEDITERRANEAN SWEETS— | |
| Coyote OK Exchange | 1.85 |
| Orchard Run SA Exchange | 2.00 |
| Golden Flower Redlands OG Assn | 2.40 |
| Blossom Redlands MO Co | 1.55 |
| ST. MICHAELS— | |
| E Highlands E Highlands CFA | 3.30 |

BOSTON, June 28.—Eighteen cars sold. Cloudy; muggy. Market easier on oranges, higher on lemons.

| NAVELS— | Average. |
|---|---|
| Quail OK Exchange | 2.25 |
| Sweetheart AF Ex High Grove | 2.45 |
| Pine Cone San Bernardino Ex High | 2.35 |
| Orchard National Orange Co | 2.90 |
| Knight Ely Gilmore Fruit Co | 1.65 |
| Rey Semi-Tropic Ex Fernando | 2.15 |
| Eagle AF Exchange High Grove | 1.90 |
| Arrowhead S. Bernardino Ex High | 2.00 |
| Standard National Orange Co | 2.20 |
| MEDITERRANEAN SWEETS— | |
| Homer Queen Colony Ex Corona | 1.90 |
| Family | 1.50 |
| Queen Bee | 2.15 |
| Rey Semi-tropic Ex Fernando | 2.25 |
| Tunnel | 2.55 |
| ST. MICHAELS— | |
| Queen Queen Colony Ex Corona | 2.00 |
| Pride of California Riv Ex Arling | 1.65 |
| Pine Cone San Bernardino High | 2.40 |
| Our Beauty (half boxes) | 1.00 |
| Rey Semi-Tropic Fernando | 1.15 |
| Tunnel | .90 |
| VALENCIAS— | |
| Sweetheart AF Exchange High | 2.90 |
| Stag A-C-G Ex Glendora | 3.60 |
| Pointer | 2.35 |
| Hunter | 2.75 |
| Elephant Orange Growers' Cash A | 3.15 |
| None Better | 3.05 |
| Sunshine | 2.80 |
| River | 2.55 |
| LEMONS— | |
| Punch Semi-Tropic Colegrove | 4.55 |
| Club | 3.40 |
| Valley | 3.75 |
| Pet San Antonio Exchange | 8.20 |
| Greyhound | 6.85 |

ST. LOUIS, June 28.—Very hot. Market weak on oranges account weather; 12 cars sold.

| NAVELS— | Average. |
|---|---|
| Golden Riverside Ex Riverside | 2.10 |
| Greyhound SA Exchange | 1.90 |
| King Leo. SA Exchange | 1.70 |
| Castle Riverside Ex Riverside | 2.05 |
| Captain SA Exchange | 1.75 |
| Select SA Exchange | 1.60 |
| VALENCIAS— | |
| Dahlia California Citrus Union | 2.40 |
| Newsboy RH Redlands | 2.45 |
| Greyhound SA Exchange | 2.45 |
| Alhambra ST Ex E Alhambra | 2.45 |
| Don Quixote | 2.40 |
| California | 2.00 |
| SWEETS— | |
| Royal Knight RH Redlands | 2.15 |
| Newsboy | 1.55 |
| Tally-ho SB Highland | 2.30 |
| Big R | 1.95 |
| SEEDLINGS— | |
| Golden (budded) Riverside Ex | 1.65 |
| Volunteer SA Exchange | 2.05 |
| Big R SB Rialto | 1.45 |
| LEMONS— | |
| Blue Jay OK Exchange | 3.65 |
| Royal QC Corona | 3.80 |
| O I C Brand | 3.40 |
| Valley ST Colegrove | 3.75 |
| Lemonade | 3.90 |
| Don Strachan Fruit Co | 3.20 |

CLEVELAND, June 28.—One Valencias, one navel, one seedling, five mixed and one car lemons sold. Market very strong on lemons, lower on oranges. Hot.

| NAVELS— | Average. |
|---|---|
| Tiger SB Ex Colton | 2.05 |
| Orchard Run SA Exchange | 1.75 |
| VALENCIAS— | |
| Violet DM Ex Duarte | 2.75 |
| Argonaut ST Ex Fullerton | 3.10 |
| E Highland AE Highland CFA | 2.25 |
| Jasmine DM Ex Duarte | 2.40 |
| Manzanita ST Ex Fullerton | 2.90 |
| SEEDLINGS— | |
| FLORAL SB Colton | 1.70 |
| Jasmine DM Duarte | 1.75 |
| Pomona SA Ex | 1.85 |
| Daisy (budded) M & Greene Co | 1.65 |
| SWEETS— | |
| Sugar Loaf Riverside E Highgrove | 1.85 |
| Highgrove | 1.65 |
| East Highland AE High CFA | 1.80 |
| E Highland B | 1.45 |
| LEMONS— | |
| Arab SA Exchange | 5.70 |
| Greyhound | 5.85 |
| Duck | 6.00 |

Imperial Valley Turkeys at Calexico.

CINCINNATI, June 28.—Very hot; market weak on oranges, very strong one lemons, two navels, one seedling, one mixed and one car lemons sold.

| NAVELS— | Average. |
|---|---|
| Greyhound SA Exchange | 1.80 |
| Yankee Doodle AF Ex Highgrove | 1.90 |
| ST. MICHAELS— | |
| Silence Flagler Fruit Co | 2.40 |
| LEMONS— | |
| Arab SA Exchange | 5.90 |
| Duck | 5.25 |

## SOME ALFALFA DON'TS.

Don't fail to provide for ample inoculation; soil from an old alfalfa field is best.

Don't sow poor or weedy seed.

Don't sow on a weedy soil.

Don't sow on any but a sweet, well-limed soil.

Don't sow on poorly drained soil.

Don't sow on any but a finely prepared, well-settled seed bed.

Don't pasture the first or second year.

Don't lose the leaves; they constitute the best part of the hay.

Don't seed a large acreage to begin with. Experiment on a small area first.

Don't give up. Many prominent alfalfa growers finally succeeded only after many failures.

County Entomologist Volck of Santa Cruz county, reports that it is abundantly proved that no injury comes from the use of arsenate of lead for spraying for the codling moth. He recommends the use of a pound and a half or two pounds to fifty gallons of water.

## DIVIDEND NOTICES OF THE ASSOCIATED SAVINGS BANKS OF SAN FRANCISCO.

THE GERMAN SAVINGS AND LOAN SOCIETY 526 California St., Mission Branch, 2572 Mission St., near 22nd. Richmond District Branch, 432 Clement St., between 5th and 6th Avenues, San Francisco. For the half year ending June 30, 1909, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Thursday, July 1, 1909. Dividends not called for are added to the deposit account and earn dividends from July 1, 1909.

GEORGE TOURNY, Secretary.

* * *

SAN FRANCISCO SAVINGS UNION, northwest corner California and Montgomery Sts. For the half year ending June 30, 1909, dividends have been declared at the rates per annum of four and one-eighth (4⅛) per cent on term deposits, and four (4) per cent on ordinary deposits, free of taxes, payable on and after Thursday, July 1, 1909. A dividend not drawn will be added to the deposit account, becomes a part thereof and earns dividend from July 1st. Money deposited on or before the 10th day of July will receive dividend from July 1st.

R. M. WELCH, Cashier.

* * *

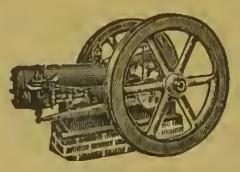
THE SAVINGS AND LOAN SOCIETY, 101 Montgomery St., corner Sutter St., San Francisco. For the half year ending June 30, 1909, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Thursday, July 1, 1909. Dividends not drawn become part of deposit accounts, and earn dividends at the same rate, from July 1. Money deposited on or before July 10 will earn interest from July 1.

WM. A. BOSTON, Cashier.

## RESOURCES OF CALIFORNIA.

The California State Board of Trade is mailing its review of the resources and possibilities of the state, or, more properly, its Nineteenth Annual Report. On the front cover is a relief map of California in three colors, which, though small, gives a valuable idea of the location of the tillable lands and the mountainous regions of the state. The pamphlet is filled with reliable statistics, together with special articles by authorities on agriculture and our various products.

The Board is organized for the purpose of attracting the attention of eastern people to the wealth producing possibilities and desirable home making features of our state.



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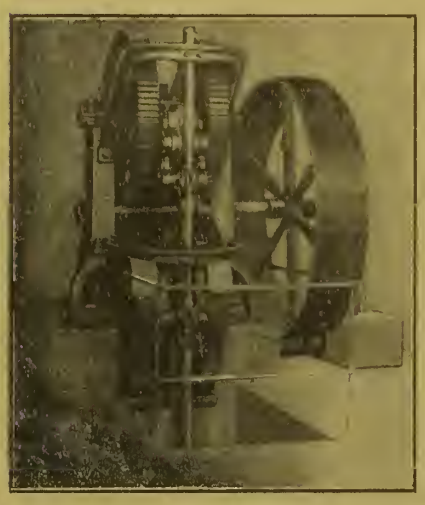

It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

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# Latest Deep Well Turbine Pump

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

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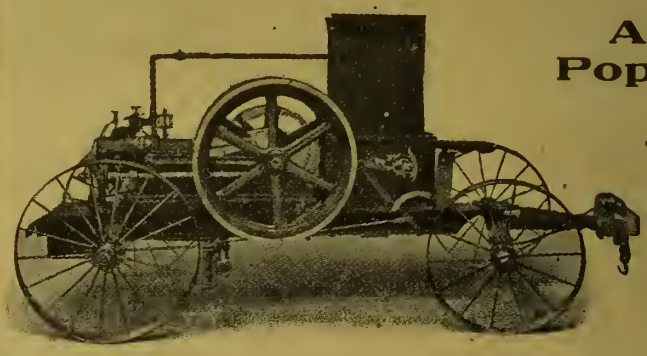

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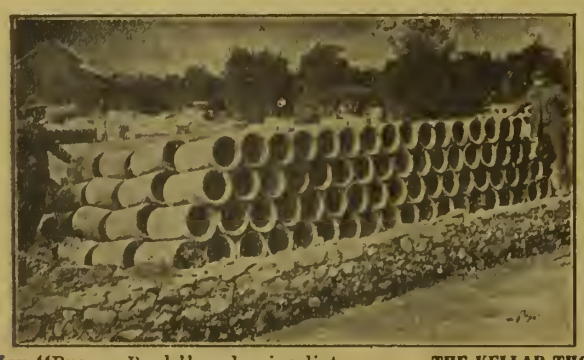
**262-264 South Los Angeles St., Los Angeles Cal.**



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## Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

## "K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

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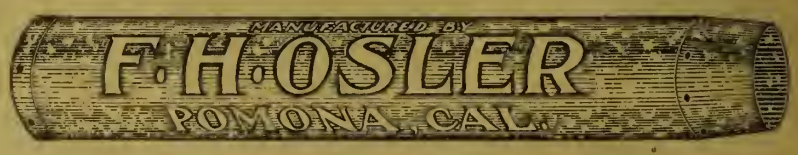


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# California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — July 8, 1909 — San Francisco


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Ready for Market.

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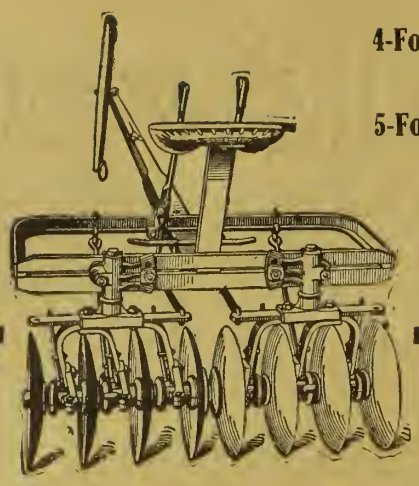

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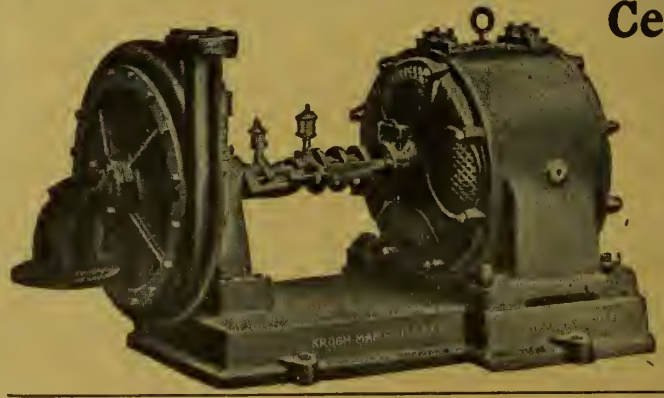

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# California Cultivator

Vol. XXXIII—No. 2 Los Angeles, California, Thursday, July 8, 1909 Subscription $1 a Year


# Practical Methods in Alfalfa Growing

## Letters from Growers Who Know With Many Suggestions of Value

SO MUCH exceptionally good material came in for the alfalfa articles last week that we have held over a large supply of it for leader this week. It will be remembered that in the last issue we gave the list of questions sent out to the various growers, which are answered practically in full by the following contributors. Taken all together these answers prove that every grower must consider his own conditions and surroundings, just as he must do if he successfully grows any other crop. For instance the time of cutting alfalfa depends upon the use to which it is to be put. If it is to be used for the dairy stock, as is usually the case, it should be cut the moment the blossoms begin to appear; if for horses, several days later gives better hay. It is also shown that greater tonnage is secured by the earlier cutting.

Plainly the principal alfalfa in this country is the common or Chilean variety. The tests made of Arabian alfalfa indicate that its popularity will probably become much greater than at present. On the subject of irrigation there is the greatest diversity of opinion. Also various opinions are expressed as to the practice of planting alfalfa between orchard trees; some holding that it is even beneficial, while others would not allow it under any circumstances. We believe that if it is planted in this way, the greatest care should be exercised and abundant water supplied, or the trees may be seriously handicapped. Following are the remainder of the articles which we have received:

**N. C. BLanchard, Hanford, Kings County.**

1. Have never tried any variety except the common one universally grown in this locality.

2. (a) Irrigated first three years out of seven; afterwards discovered that I had better results without surface irrigation as land is subirrigated. (b) Never built any checks. Land in Kings River Delta is irrigated best by contour ditches. Checking is neither necessary nor desirable.

(c) Do not try to have water stand on land at all—simply cut contour ditches on highest levels and let water soak to lower points. When high points are sufficiently wet, water is cut off and surplus waters lower lands sufficiently.

3. (a) Land plowed deeply, the deeper the better (should not be less than ten inches) and harrowed thoroughly as often as necessary to put in good tilth. (b) No.

4. (a) I prefer to seed as near to March 1st as possible, and sow from 15 to 20 pounds seed per acre. (b) Sow broadcast. (c) Did not screen—try to buy clean seed. (d) Yes. Notwithstanding all expert recommendations to the contrary. Alfalfa on Kings River Delta land does better with nurse crop of 40 to 50 pounds wheat or barley. The principal reason for this is that the nurse crop keeps weeds down. Without it very little return can be had from the first and second cuttings which will be mostly sunflowers. With a nurse crop a first cutting of grain hay may be taken off and two crops of alfalfa during first season.

5. (a) After third year would disk once a year, preferably during winter, choosing a time when surface is not too wet but soft enough to stir. Prefer the toothed disc known here as "Alfalfa Regenerator." (b) Never used any fertilizer.

6. Scarcely any foxtail during first four years, later it began to come in. I cut it with crop and sold at lower price.

7. Four to five cuttings per year.

8. (a) Sold hay. (b) Never pastured stock on it at all.

9. The only pests here are ground squirrels and pocket gophers. These can be kept in subjection by poisoning and drowning out by a special irrigation.

10. Kept land in alfalfa eight years. If cultivated and not pastured it should be good for fifteen or twenty years.

11. I have never grown alfalfa between fruit trees.

12. (a) I like best to cut when blooms are just starting, say about three or four to each square yard. (b) Mow in the later afternoon or early morning and rake in afternoon, allowing it to lie over night in swath then bunching next day by hand and allow it to cure in the bunch pretty thoroughly before stacking.

**J. N. Lester, Denair, Cal.**

1. I have chiefly grown the common English variety. This year I have seeded some Turkestan and Sand Lucerne (Medicago Media.)

2. I irrigate, making checks eight feet wide at base and twelve inches high. From the high check I aim to level ground to a three-tenths foot grade, and prefer to let the water stand only deep enough to cover the highest part in the check.

3. After leveling, I plow (preferably deep), either flood to settle the land or let it lie four or five weeks to settle. Then cultivate and harrow. I inoculate seed.

4. I have had best results by sowing in April. Sow sixteen to eighteen pounds. I broadcast before the disk or cultivator about eight to ten pounds of seed and the same amount crossways after the cultivator. I buy seed only from firms that guarantee it to be free from dodder or other obnoxious weeds. It is difficult to get pure Turkestan seed. I do not plant nurse crop.

5. I disk once a season. I have applied gypsum and fertilizer about one hundred pounds per acre. Satisfactory temporary results.

6. The first cutting has some foxtail. We cut it early and feed it to the stock.

7. If the meadow is cut each time as the new shoots appear at the crown, we can get six cuttings.

8. We feed most of our hay to our dairy stock. We pasture all the year. We do not have much trouble with bloat if we leave the cows on the pasture day and night.

9. Gophers and squirrels are our worst pests. We keep a sharp lookout and kill all we can when irrigating.

10. Our oldest alfalfa is in its fifth season, and is as satisfactory a stand as the youngest.

11. We have never grown alfalfa between orchard trees. However, we planted some trees in an alfalfa check and results are not satisfactory.

12. We cut when the basal shoots start to grow, regardless of whether alfalfa has commenced to bloom or not. The time between cutting and stacking depends upon the weather. Early in the season I let the hay lie a day before raking and then in the windrow a day. When the heavy dews are over and the warm weather comes, I rake as soon after mowing as the rake will pick it up, usually about two hours after cutting, and get it into the cock as quickly as possible. You cannot rake so close to the mower when fertilizer has been used. The hay should be stacked any time after it has cured enough (when you twist a stem, sap does not appear). It is not necessary for hay to be bone dry before stacked. I have used caps (and lime) in Illinois, but not in California.

**Geo. N. Castle, Tulare.**

1. I grow the common variety.

2. For irrigating I build the contours four tenths above the level of the land.

3. Plow and harrow till the soil is thoroughly pulverized. Have never used bacteria or inoculated seed.

4. We sow any time from November to March 1st, using about fifteen pounds of seed to the acre, and broadcasting., Do not screen seed nor plant nurse crop.

5. Disk early in the spring. Never used any fertilizer.

6. We cut the first crop containing foxtail just as the foxtail is heading, cure as quickly as possible and stack.

8. Feed on the place. Pasture at times when not expecting to cut for hay. It is better not to pasture at all.

9. Have not discovered any pests.

10. Use same land for five or six years, then change to grain for a year or two.

11. Have never grown alfalfa between rows of trees.

12. For dairy purposes, cut before blooming; for horse feed, cut when well in bloom. Rake as soon after cutting as possible to cure. Have never used any caps for cocks.

**Will Higdon, Tulare.**

1. I grow the common variety. Turkestan doesn't do well here.

2. In irrigating I build the checks one to two inches high as it is only eight or ten feet to water here.

3. I give the ordinary plowing and harrowing. The land here is naturally adapted to alfalfa raising so needs no inoculation.

4. I sow fifteen pounds of seed to the acre, either drilling or broadcasting. Do not screen seed. Plant nurse crop if seeding early.

5. Do not disk. Have not applied lime or fertilizer.

6. The first cutting is usually mixed with foxtail.

7. Cut five or six times.

8. Very little troubled with bloat.

9. Drown gophers in irrigating.

10. Several fields here have been sown twenty years and have good stands yet.

11. Have never grown alfalfa in orchards.

12. In hot weather the rake usually follows right after the mower. We stack the old way with hand forks. Small stacks will not heat. We use no covers here for hay.

**H. T. Anderson, Visalia, Tulare County.**

1. I have always grown the common variety until this season when I sowed ten acres to Turkestan. I have a nice stand on the land from less then eight pounds per acre.

(Continued on Page 36.)

**Fumigators' Water Measure Pitcher**

Graduated according to the new standard. Twelve divisions, each division representing 3 ounces. Hence—one mark Water, one ounce Cyanide, one ounce Acid.

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***Not too Light***
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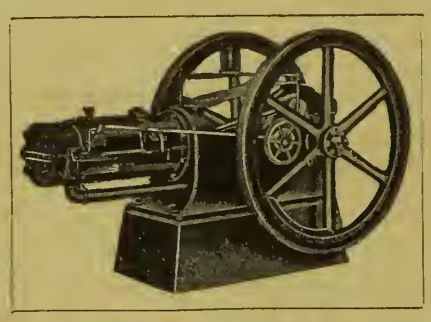

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# With the Citrus Growers

## AS OTHERS SEE US.

MOST interesting reading is given to Californians in the reports of the various commitees of Florida orange growers who visited this state a few months ago. These reports were all made at the meeting held at Tampa, and almost to a man they join in commending the spirit of boosting and standing together which prevails among California fruit growers. Especially would we call attention to the last sentence of the following report which the committee on organization submitted. We quote very largely from this committee's report because it gives an idea of an outslder's view of our methods, and should be an encouragement to Californians to go on and perfect that which is now accomplishing so much. The following is from the report.

After due investigation of the corporation laws of the State of California, under which the Fruit Growers' Exchange is organized, we found that in order to bring about the same or similar organization in Florida, it was necessary to secure from our legislature, now in session, the passage of a corporation law similar to the California law. In other words, we found that under the present corporation law of Florida, we could not accomplish the purpose of the California organization.

Under the California law, the Fruit Growers' Exchange and the corporations under it are organized not for profit, but for mutual association, and under the provisions of that law the stock issued in these associations is not assignable by the owner without the consent of the association, and can not be sold for his indebtedness, nor does it pass to his administrators, as the general laws requires in ordinary corporations, but it becomes an asset of the land, on which his grove is situated, and passes with the ownership of the grove; in other words, it does what is generally designated in the law in similar cases—runs with the land.

Again by their enactment of the California law, they have avoided all danger of conflict with the anti-trust laws of the general government. These considerations being so weighty, and of such vital importance to our successful organization of the orange growers of this state, we thought it best to, and did immediately copy the California law on this subject, only changing its terms so as to fit our conditions, and immediately sent one copy of this law, or intended law, to the senate and another to the house of representatives of the state of Florida, requesting the immediate passage of one of them. We regret to state that up to the present we have been unable to secure the passage of the same; we are, however, still hopeful that one of these bills will yet be passed and become a law, and thus give us an opportunity of organizing this state on the same basis and under similar laws to that of California.

### Legal Standing of the Exchange.

We find that the California Fruit Growers' Exchange and the system upon which it is organized, contemplates and brings into existence three different classes of organizations, built up like a pyramid, the one resting upon the other.

At the foot of this pyramid and forming its very base, are the various fruit growers' unions; they are, as a rule, corporations, though not necessarily so at all times. They are known and termed associations of growers, or units, and reach directly the growers who compose it. These units are formed in each neighborhood, considering only the convenience of the growers.

As a general thing there is but one share of stock issued by the association to each grower, which share of stock is predicated upon his holding of orange property, and is an adjunct to such property, and the ownership of it passes with the land.

### Sub-Exchange.

The sub-exchanges are separate corporations from the associations above described, and are composed of groups of such associations of growers, and are located in the most convenient territory to the associations that compose them; one share of stock of the sub-exchange is issued to each association of growers, which entitles each association to one director in the exchange, this share of stock being usually held by the particular director elected by the association to represent it. The sub-exchanges are located in some central community convenient of access to all of the associations that compose it, so as to be in touch with the associations and act as a means of communication from them to the central exchange, and at the same time be in close communication by telephone and telegraph with the central exchange.

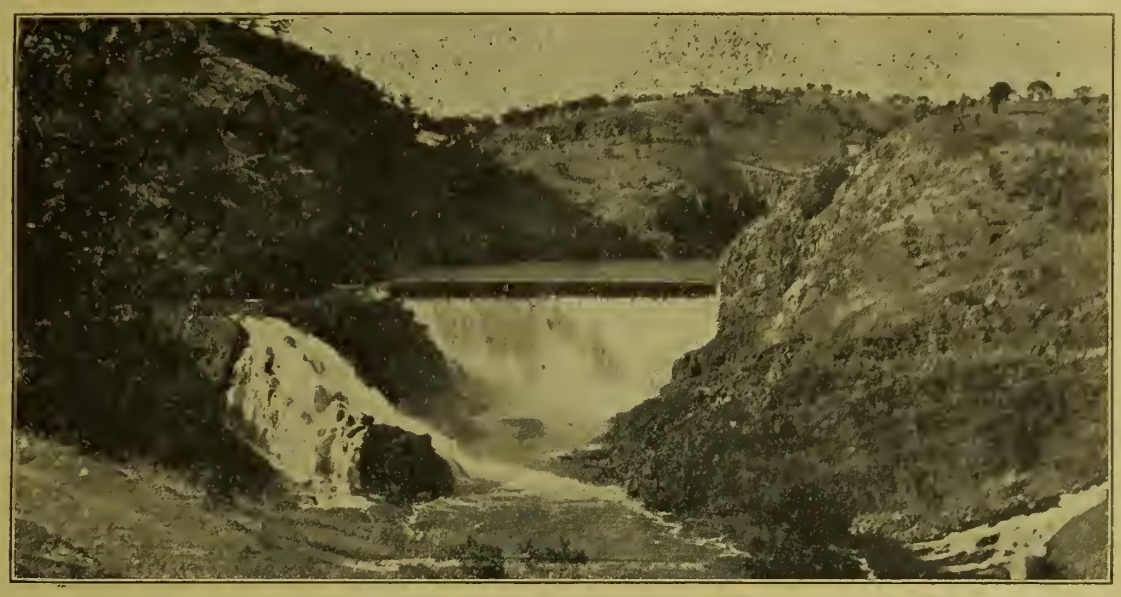
Coming on to the apex of the pyramid, as above described, we now reach and deal with the

### Central Exchange,

Or clearing house for the fruit itself. This, in the case of California, is located at Los Angeles. One share of stock of this, the general exchange, is issued to each sub-exchange; no more and no less. This entitles each sub-exchange to one director in this general exchange or clearing house, and these directors so elected, one by each sub-exchange, compose the directory and absolutely control the entire shipment and placing of the fruit of all the growers, who, through the associations and sub-exchanges, compose it, and this clearing house directly reaches the growers in the transaction of their business, through the sub-exchanges and through the associations of growers, down to the growers themselves, thus placing the growers at all times in direct touch and communication with the exchange handling their fruit. This clearing house or exchange handles all the fruit turned over to it by the associations, through the sub-exchanges, and at the same time and on the other hand is in direct touch with the buyers of the fruit at the other end, and entirely directs the sale and distribution of the fruit through its agents in the markets.

Another adjunct of the exchange or clearing house is to act as a purchasing agency of supplies for the growers, which has proven very satisfactory to the growers there, for by purchasing all their packing supplies and fertilizers in bulk they have been able to save to the growers for whom they act in this capacity tremendous sums of money. In fact it is demonstrated that the saving to the growers in this particular alone more than pays

the entire expense of the marketing of the growers' fruit. Again this clearing house acts as a collecting agency for the growers, takes up and handles all claims of growers against the transportation companies for any damage to the growers' fruit, and by putting the force of this organization behind these collections, has been enabled to collect practically all of these claims from the transportation companies without suit, thus again saving to the growers vast amounts of money that might be expended otherwise for such suits. None of these corporations composing this system are organized for profit, but, on the contrary, the entire question of profit in the handling of the fruit, and its marketing has been eliminated, for while the general exchange charges the growers a reasonable amount for marketing the fruit sent through it, all of this sum so charged and collected from the grower is used in paying the expenses of the employes hired, on salary, to manage the business of the exchange and to meet other necessary expenses of the marketing of the fruit, and, if after so doing, any of the funds thus collected from the growers remain in the hands of the exchange, such funds are, at the end of the season, pro rated back to the growers, through the sub-exchange and association, according to the number of boxes shipped through the exchange by each grower, thus making this system, in our judgment, and as far as human foresight can possibly render it, a complete and perfect system, and one we most heartily recommend for the adoption of the orange growers of Florida, it being impossible in our judgment to conceive a more perfect organization.



La Grange Dam, Source of the Great Turlock-Modesto System.

### THE ARGENTINE ANT.

From an account in the San Jose Times on the work of the Argentine Ant, which some months ago was referred to as offering a possible menace to our fruit industry, we quote the following:

"L. H. Day, the man who is at the head of the investigation in the Argentine ant situation in connection with the Agricultural Station of the University of California, was in town yesterday in conference with County Entomologist Earl L. Morris looking over the conditions in San Jose.

These two men have been working hand in hand in this matter, as is the practice of the county entomologist and the university authorities in all of the work they are jointly interested in. Mr. Morris has been looking for some practical method of eradicating this pest, while Mr. Day has been making an exhaustive investigation into the life history of the pest and in this way trying to find some method of control.

Although his work has been carried on but about three months, Mr. Day has come to some conclusions that he feels will be of benefit in getting at the bottom of this perplexing problem.

During the past three weeks this investigator has been watching the work of a small colony he has in his laboratory and has found that in this time the queens, which are very plentiful are laying from 30 to 60 eggs each day. How long this process will continue can only be guessed at, as this is the first season that any definite work has been undertaken by the university authorities in this direction. He has also found that they do not break up in small colonies as do the native ants, but gradually spread out in one great community.

The most frequent method of spreading from one section of a city to another or from one part of the country to another is by means of potted plants and through fertilizer, both of which, the investigator declares, are perfect methods for the spread.

A very large interest is being taken in this work by the university authorities, who hope that it will not be long before some definite campaign can be waged against this pest."

### COVER CROP IN THE ANTIPODES.

The most efficient substitute for stable manure is a leguminous crop plowed into the soil early in spring before severe evaporation begins. The crop generally cultivated for the purpose is the field pea. The plan of cultivation for the complete fertilization of fruit-growing land which is now generally adopted in districts in Victoria remote from a supply of farmyard manure is as follows: The ground is broken up after the crop of fruit is gathered, and cultivated to form a good seed bed. Peas are sown, in drills or broadcast, with superphosphate at the rate of 2 cwt. per acre. In some cases sulphate of potash, at rate of 1 cwt. per acre, is added after the peas are sown and lightly harrowed in, it being accepted that a supply of this manure is necessary, especially in light soils. In early spring, the crop of peas is plowed in and the soil well cultivated to produce a level well pulverized surface. By the means stated vegetable matter, nitrogen, phosphoric acid, and patash, are added to the soil, thus furnishing the most important fertilizing substances, and improving, by means of the vegetable matter, the physical condition of the soil.—Journal of Agriculture of Victoria.

Wounds on fruit trees of any considerable size should be given a coating of paint or some other durable substance. A suitable dressing must contain two distinct properties. It must check the drying of the wound and prevent the growth of bacteria and fungi, and it must be of such a nature as not to injure the surrounding bark. For general purposes, a white lead paint is most satisfactory.

The past month has been exceedingly favorable to the increase of many insect pests in Madera county, and the orange thrips especially is reported very destructive.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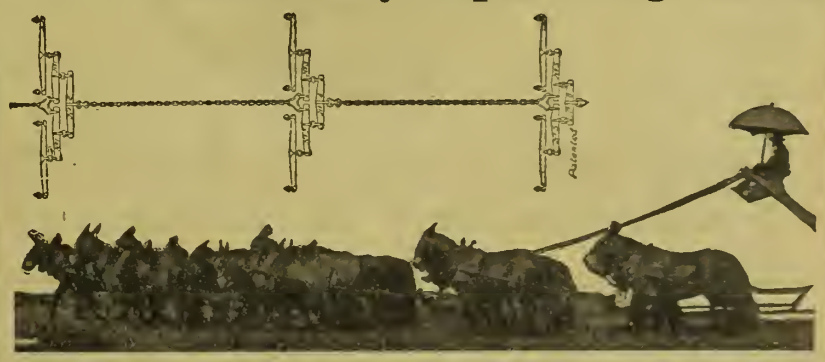

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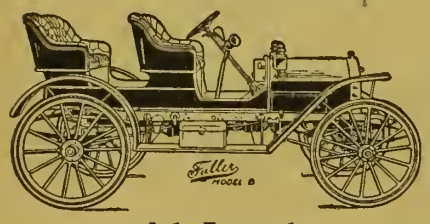


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# Deciduous Fruit Culture

By J. W. Mills

## PECANS IN TEXAS.

GREAT interest is being created in Texas in Pecan Growing. It is a tree which requires years to come to full maturity, but its profitableness is such that it pays for the waiting.

A few hours before the late Governor Hogg's death, he said: "I want no monument of stone or marble, but plant at my head a pecan tree and at my feet an old-fashioned walnut * * * and when these trees shall bear, let the pecans and the walnuts be given out among the plain people of Texas, so that they may plant them and make Texas a land of trees."

A noble sentiment which will attract atention of Texas growers to the advantage of tree planting.

Like nearly all other trees the pecan does not come true to seed, so that budding or grafting is necessary for uniformly good fruit.

### Budding.

The following read before the late convention of Texas Nut Growers gives of the experience of Mr. Fernando Miller in budding:

If we are to be successful in budding, there are certain requirements which we must necessarily heed and none is of more importance than the selection of the buds. Nearly all the pecan budding done heretofore has been accomplished with buds taken from shoots of the current season's growth. There are those who still hold to the opinion that these buds are best, but my experiments have proven to me at least, that the older ones are much preferable. The government expert at Washington, Mr. Oliver, whom I believe was the first to recommend the use of these dormant buds might have gone farther and urged the use of all dormant buds regardless of their age instead of stopping with recommendation of those of the previous year's growth. These dormant buds ranging in age from one to several years, may be seen on any pecan tree at any time of the year, and I believe their proper use in budding will revolutionize the propagation of pecans.

It has been my experience that June is the best time for pecan budding, and at that time of the year the new shoots have made considerable growth and for every stick of dormant buds we must cut off a new shoot. Since buds of fine varieties of pecans are very scarce, not nearly enough to supply the demands for them, it surely would be advantageous if we could use these new buds successfully.

If the leaves on the young shoots are clipped off just where they begin to spread, leaving the leaf stalks about three or four inches long, it will be found that in two or three weeks these leaf stalks will have been so prepared by nature's laws that the buds found near them may be used successfully. The treatment above referred to should be continued throughout the months of April and May and by the middle of June from one-half to two-thirds of the buds on each shoot may be developed to the extent that their use in budding will be followed by satisfactory results. I sincerely hope that those who are interested in pecan budding and who have access to pecan trees will try this experiment, for if it proves a success with others, it would assist materially in the pecan growing industry.

There has been so much written and spoken on the various methods of pecan budding that I feel anything that I might say on this part of my subject would add nothing to the stock of knowledge already at hand, but will say in this connection that I have budded pecans from March to July, inclusive, and as already stated, have found June to be the best time, for it is then I have found everything to be in the best condition for that operation. Pecan trees which have been topped in February will, by June, have grown shoots large enough to bud and besides the shoots on trees topped the previous year are then not too large to be budded. It is my opinion that no one, however skilled as a budder he may be, will ever have satisfactory results if he is to depend upon his buds coming through the mails. The first step then to be taken is to have a few bearing pecan trees coming on one's own grounds so that the buds can be got fresh from the trees, unless it be in an effort to get a start of a new variety.

## ORCHARD FERTILIZERS.

Fertilizers are but one of several factors that affect success in orcharding. The others include varieties, location, soil management, spraying, pruning and general orchard care.

The best orchard treatment probably consists in the discovery of the crop-limiter, the elevation of it to the level of the other factors, and the maintenance of a proper balance in the treatment thereafter.

In some orchards fertilizers and manures are the limiting factor, while in others it is something else. Hence, in general, it is questionable whether they should be applied in large amounts, until the orchardist has evidence that they are needed.

The need of a fertilizer is indicated by the trees being deficient in growth, foliage, or fruit, after the other factors are apparently right. Under these conditions applications of manures and fertilizers can scarcely fail to produce beneficial results.

The indications are that nitrogen has more value as an orchard fertilizer than is generally accorded it. It should be used judiciously, however, on account of its effect on color. It can be used most freely on the earlier soils or in localities with rather long growing seasons. It is probable that failure to secure results on apples from the application of potash and phosphates may often be due to a deficient nitrogen supply, which thus becomes the limiting factor for that orchard. If applied in the nitrate form, the time of application must be right.

The greatest actual improvement in value of fruit has been secured on plots receiving phosphoric acid and potash in the form of low-grade sulfate. The exact cause of this is not yet known.

Where plant-food is needed, we cannot improve upon the general recommendation of stable manure (about 10 T. per acre) or leguminous covercrops, alternated with a fertilizer carrying about 30 pounds of nitrogen, 60 pounds of prosphoric acid, and 100 pounds of potash per acre.

To accompany this system of fertilization, the indications are that the proper soil management for most situations is tillage with a leguminous cover crop while the orchard is young, followed by a mixed grass and leguminous sod or sod-mulch when bearing age and size is reached. After the bearing habit is established, a return to tillage every second or third year should be made, increasing the frequency of tillage with the age of the orchard and the demands of the fruit.

Current orchard practice may be improved by the owners adopting the methods apparently best for their orchards as a whole, and then maintaining some parts for experimentally determining whether the methods chosen are really best for their conditions.—Penn. Exp. Sta.

## CIRCULATION OF AIR IN SOIL.

A proper circulation of air in the soil is just as important as any other factor of plant growth. Nearly half of the volume of ordinary soils is occupied by air spaces. The air spaces in the soil wind in and out between the soil particles as they do in a pile of larger stones. If the layer of water on the surface of the soil grains becomes so thick as to stop the air passages here and there the soil is then too wet for most crops and needs drainage.

Plants have no special breathing organs, the oxygen required in their breathing finding entrance all over the surface of the plant. Plant roots must therefore be supplied with air, and hence the soil must be porous enough to permit of free circulation of air. A good supply of humus and proper tillage will accomplish this result in clay soils. Sandy soils are usually too porous, needing humus to help them retain water.

Another reason why air must circulate freely in the soil is that large quantities of oxygen are required to insure proper decay of organic matter to supply plant food. Also, carbonic-acid gas is produced by the decay of organic matter, and this must escape easily to make room for the atmospheric oxygen needed in the soil.

The movement of air in the soil is frequently shown by the bubbles which appear at the surface of the soil just after a hard rain. As the water soaks into the soil it drives the air out, and bubbles may be seen at the surface if water enough is present to form them. One of the most important objects of plowing is to loosen up the soil and mix fresh air with it.—Farmers Bulletin.

Mr. G. P. Rixford of San Francisco, under direction of Walter T. Swingle of Washington D. C., in charge of office of Plant Industry, is in Loomis superintending the shipment of Capri figs from the E. W. Maslin Seedling Fig Orchard to growers of Smyrna figs. There are 152 trees in this orchard, half of which are Capri. Any grower of Smyrna figs wishing further information may write to J. P. Rixford, 1813 Pierce St., San Francisco.

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## ACIDITY OF CREAM ON THE FLAVOR OF BUTTER.

IT HAS BEEN a generally accepted theory among teachers of and writers on dairy subjects that the production of good butter necessitates the development of a certain amount of acid in the cream, for two reasons—to develop a desirable flavor and to improve the keeping quality. Recent investigations by the United States Department of Agriculture indicate, however, that butter made from pasteurized sweet cream has better keeping qualities and remains free from objectionable flavors for a longer time than butter made from sour cream.

The Dairy Division of the Bureau of Animal Industry for the past three years has been making a study of the changes which butter undergoes in storage, and especially the influence of acidity of cream on the keeping qualities. This was done to determine the best method of making butter for storage. The investigations have been carried on by Messrs. L. A. Rogers and C. E. Gray, and included the making of experimental lots of butter by different methods and in different parts of the country. This butter was kept in cold storage and was examined and scored at certain intervals, the scoring being done by men who had no previous knowledge of how, when, or where the butter was made, so that their conclusions were based strictly on the quality of the butter. A report of this work has just been issued as Bulletin 114 of the Bureau of Animal Industry.

As a result of the investigations it was found that butter frequently undergoes marked changes even when stored at very low temperatures, and that these changes are more marked as the acidity of the cream from which the butter is made is increased. No bacteria were found in the cream or the butter which could reasonably be expected to be the cause of the more rapid deterioration of the high-acid butter. Furthermore, the changes in the high-acid butter were not checked by heating the ripened cream, which shows that they were not brought about by enzymes secreted with or in the cream and carried into the butter. The results also indicated that acid which develops normally in the cream by the action of certain bacteria, or which is added directly to the cream in the form of pure acid, brings about or assists in bringing a slow decomposition of one or more of the compounds of which butter is largely composed.

What is regarded as of special importance is the fact that butter can be made commercially from sweet pasteurized cream without the addition of a starter. Fresh butter made this way has a flavor too mild to suit the average dealer, but it changes less in storage than butter made by the ordinary methods, and can be sold after storage as high-grade butter. At present time there are at least ten creameries in the country making butter from sweet pasteurized cream without a starter, and many more with a starter but without ripening. The statements in regard to butter from unripened pasteurized cream do not hold for butter made from unpasteurized cream churned without ripening. Butter made in this way has poor keeping quality.

Butter for the United States Navy is being made from sweet cream, and this plan, adopted last year, is giving satisfaction. A tub of sweet-cream butter 14 months old on exhibition at the National Dairy Show last December had no storage or fishy flavor, and was pronounced a fine article.

## CO-OPERATION IN DENMARK.

J. H. Murad writes from Copenhagen to Hoard's Dairyman about co-operation in Denmark. There are all manner of co-operative societies in Denmark for all sorts of purposes, including savings banks. These societies have existed for many years, but real progress began only about 1866, and that was upon the pattern of the English "Rochdale" societies. Mr. Murad, quoting from a recent Danish history of co-operation in Denmark, says that there were forty-four associations in 1879; 108 in 1875; 837 with a membership of 130,331 in 1898, and 1188 with 168,699 members in 1908. The principles on which the best associations were started were those of the English, as follows:

1—Any one may become a member whether he is poor or rich, or whatever social position he occupies.

2—Every member has but one vote irrespective of the size of his investment.

3—The working capital is provided by the members, who receive a reasonable interest, say 5 per cent, on it.

4—All buying and selling is done on a cash basis.

5—The goods are distributed at the ruling common retail price.

6—The net profit is divided among the members in proportion to their purchase during the year.

7—The members conduct and control the business through a not too small directory and by auditors not members of the directory.

These associations do, in the aggregate, a very large business, but the stores can not, of course, compare in volume of trade with the much larger establishments of Great Bitain, but the aggregate trade of the stores in 1907 was $39,837,373. Their management, however, is exceedingly economical, the working expense in 1907 being but 2.15 per cent of the total sales. The failure of most American associations is due to the disregard of most or all of the following principles, which are supposed to govern all Danish co-operative stores, and especially to ignoring the fundamental principle that all purchases and sales must be for spot cash:

1. Appoint as distributer a man who understands and is interested in the problem and who has a trade training, at best in a consumers' association or if he lacks this give him an assistant who has such training.

2. That he gives a sufficient and satisfactory bond for what is confided to him.

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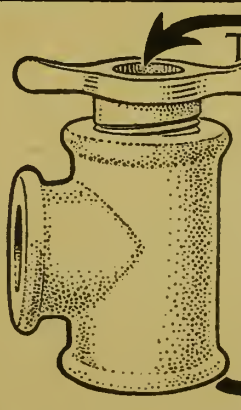

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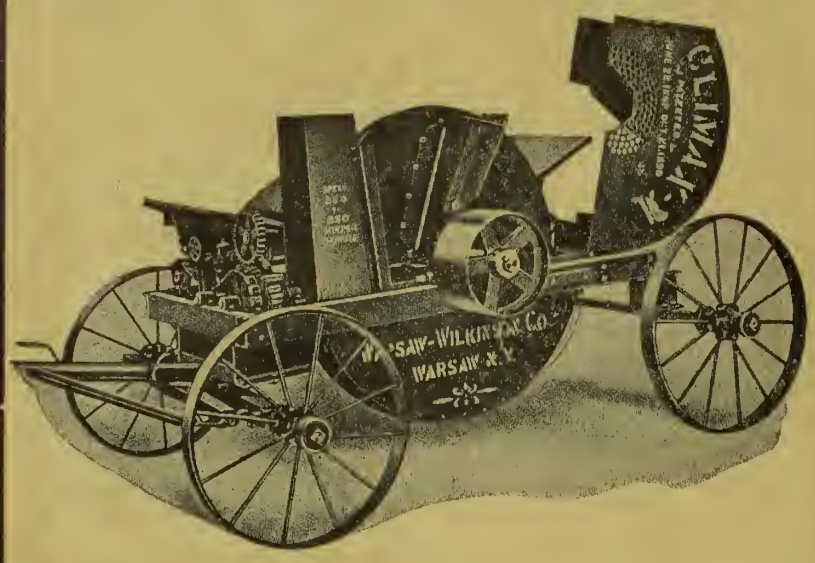


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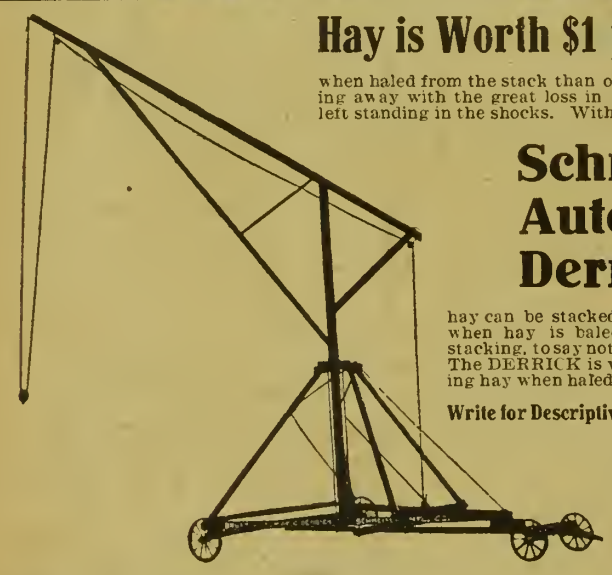

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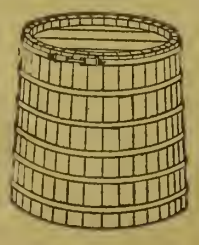


keeper at the same time. The directors should, jointly with the distributers, buy the stock and secure the best terms possible so that there is no chance of bribery.

4. At best the bookkeeper should not be cashier.

5. The directors should actively control the business and take stock carefully at least twice a year.

6. The directors should invariably investigate, every month, the liabilities to the joint association and see that they correspond with the book.

7. The auditors should be elected with a view to their actual competence to audit the account; they must know and have had practice in bookkeeping.

8. The association must absolutely not give credit to the members. If it is permitted the distributer (at his own risk, of course,) to give a little credit, it must be limited and only for a short time and he should be fined if he exceeds it. When the accounts are made up he must invariably have collected all that's due from the members. If he is permitted to give credit his bond must be twice as large as the highest amount of credit which he is allowed to give. Of course, those who get credit must pay interest in justice to the other members. But the ideal system is not to allow any credit whatever; indeed some associations fine the storekeeper if he delivers any goods without cash payment, and thrive well.

9. The associations must have enough working capital to pay cash for the stock; at least half the Danish associations do not have enough and are prevented from securing the benefits of cash buying; members oppose the securing of enough capital, but are content to let the association assume liabilities to their trade connection; they forget that they are equally solidary responsible for such debts as for regular time loans, the size of which they knew and the interest on which is much lower than on the floating liabilities.

The members of the Danish associations are solidary responsible, as understood by the old Roman law, so that a creditor may make execution in the property of any one of the members for the whole amount, leaving him to collect from the others. This makes it much easier to obtain credit at low interest, but is pretty tough on the victim selected.

## INCREASING PREVALENCE OF ANIMAL TUBERCULOSIS.

The reports of the Bureau of Animal Industry of the United States Department of Agriculture indicate that tuberculosis among live stock is steadily increasing, as shown by the number of animals found affected at the various slaughtering centers. The increase in the number of cases found is due in part, but only in part, to the increased efficiency of the method of inspection. The meat inspection figures show that nearly one per cent of cattle and over two per cent of hogs slaughtered are tuberculous, which is surely an alarming condition.

Feeding experiments conducted by the Bureau have proved conclusively that hogs are readily infected through the ingestion of feces and milk from tuerculous cows. There is therefore no doubt that the prevalence of the disease in hogs could be greatly reduced simply by eradicating it from cattle.

Considerable testing of cattle has been done in Washington, D. C., and vicinity for the purpose of assisting the District authorities in obtaining a pure milk supply, and of obtaining for the Bureau further information regarding the extent of tuberculosis in the locality and for other purposes. In these tests about 17 per cent of the dairy cattle reacted.

The percentage of tuberculosis in various States, shown by tests conducted by the officials in those States with Bureau tuberculin, indicates that from 2.79 to 19.69 per cent of the cows react, and it is estimated that in the country at large at least 10 per cent of the cows in dairy herds are tuberculous.

The recent agitation against the milk of tuberculous cows as human food has had the effect of causing many herds to be examined, with astonishing results not only to the owners but to the officials themselves. Can it be wondered at that so many infants and children die of intestinal tuberculosis when so many of the cows from which milk is obtained are tuberculous?

Without considering the matter as a public health question, but looking at it entirely from an economic standpoint and as a business proposition, live stock raisers can not afford to have tuberculosis in their herds. As an illustration, Argentina requires that all cattle imported into that country shall be subjected to the tuberculin test upon arrival, and as a consequence exporters from the United States have had the test made on cattle intended for shipment. The results of these tests showed that in some of the purebred herds nearly 50 per cent of the animals were diseased and in consequence sales were lost.

When the practice becomes general for all buyers of breeding cattle to have animals tested before placing them in their herds the breeder of strictly healthy cattle will be much sought after. Already some breeders of purebred cattle have established or are arranging to establish such herds. As soon as the breeders fully understand the fact that it is unprofitable to go on breeding cattle while tuberculosis exists in their herds much of the objection raised against the sale of live stock subject to inspection will disappear, for it would be worth the price of several condemned animals for the owner of a valuable herd to know the fact as early as possible if the disease exists in his herd, as the longer he delays in taking steps to prevent its spread the greater will be his loss eventually. Figures for the last year secured from abattoirs where Federal inspection is maintained show that over 10 billion pounds of meat was inspected, 46 million pounds of which was condemned, nearly three-fourths being for tuberculosis.

The recent effort of the large packing interests to buy all dairy cows subject to postmortem inspection shows how serious the plague is becoming. Sooner or later the man who raises tuberculous animals must suffer the loss, unless the loss is paid for out of public funds; and when the loss is placed upon the producer we may then know that the end of the disease is in sight.

It may at some time be necessary for the Federal Government to quarantine against interstate shipments of cows from certain States where the

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**Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

disease prevails to a considerable extent, and require a strict supervision over all animals removed from such States for interstate shipment, and only remove the quarantine from sections of the State when it has been demonstrated that the disease either has been eradicated or is under strict local quarantine.

## SHEEP SCAB AND TREATMENT.

Sheep scab is caused by the presence on the skin of a mite. This mite is white in color and somewhat difficult to see, but it may be seen with the naked eye and easily with a magnifying glass. On the skin of the sheep it propagates rapidly, especially when the wool is long. By feeding upon the skin and poisoning it with its excretions, it causes the characteristic symptoms of the disease. The scab mite propagates by having eggs. The eggs hatch in seven to nine days, and the young come to maturity and are ready to lay eggs at about the 14th day. Sheep affected with scab distribute the mites on everything with which they come in contact. The barns and sheds which they occupy, posts or trees in the pasture, stockyards and stock cars are common carriers of the mite from diseased to healthy sheep. A flock of sheep may become affected with the scab mite from wool sacks in which wool from scabby sheep had been previously shipped. The scab mite does not propagate at all nor thrive well off of sheep. It is killed by cold and drying. It is generally believed that it does not live off of sheep for more than three or four weeks. Observations, in this state, indicate that in a few cases it has lived in vacant premises from spring to fall. At any rate, it is not advisable to use infected premises for healthy sheep or those that have been dipped again for at least 30 days in winter and for a longer period in summer.

Scabbies, being easily cured, is kept well under control where sheep are handled in small lots on farms. It is widespread on Western ranges, where its eradication is naturally more difficult. The outbreaks of scab among sheep in this state are most common in the wild outlying ranges, or on sheep-feeding farms. In the latter case, the sheep for feeding purposes are shipped from infested areas in the West and Southwest or become infested in transit. In this way about nine tenths of the total number of outbreaks in this state have been caused. The loss from sheep scab is great only when the treatment is neglected. The disease is easily cured and may be stopped before any loss is sustained, aside from the cost of dipping. If neglected, however, it will spread, especially during the winter, to such an extent as to cause the complete loss of wool off of the entire flock and cause great debility of the sheep and sometimes more or less deaths.

The first symptoms of the presence of scab is restlessness and some scratching. Unless the flock is closely observed, this may be overlooked. More violent rubbing, biting and pulling out tufts of wool follows. As the disease progresses, patch after patch of wool falls away until the whole fleece is lost. The bare skin is covered with a wrinkled crust, which, on folding, cracks and bleeds. The affected sheep rubs continually. It loses in condition as the disease advances. After sheep are sheared in the Spring and the skin exposed to the hot sun, the symptoms subside to some extent. In some cases the herd appears to be almost well during the summer months. On the approach of cold weather, however, the symptoms return, and if the disease is neglected during the winter, there will be a heavy loss of wool and more or less loss of sheep by death.

Now and then one or more sheep in a flock will shed a part or even all of the wool without any known cause. When there is no scab mite infection, this shedding usually stops with one or two animals. In case there is any doubt about the cause of the trouble, a careful examination of the skin for the scab mite should be made.

The scab is easily cured by proper dipping. The most reliable dips are lime and sulphur and tobacco and sulphur. The patent dips have been found inefficient as far as experience in this state has gone. The Beaumont crude oil emulsion has been found very efficient in curing scabies in cattle. As the mite causing sheep and cattle scabies differs only very slightly, it is possible that this emulsion may be very effective in curing sheep scab. In case it proves to be harmless, it is almost certain to become a popular dip for sheep. It is thought worth while to include the directions here for its preparation, as found most effectual in curing cattle scabies in the West.

### Lime and Sulphur Dip.

Flowers of sulphur.....24 pounds
Unslaked lime ..... 8 pounds
Water .....100 gallons

Preparation.

First—Weigh and measure the ingredients accurately.

Second—For each 100 gallons of dip desired place eight pounds of unslaked lime in a large kettle and add enough water to slake it and to make it into a paste.

Third—Sift into this 24 pounds of sulphur and stir well.

Fourth—Add 25 or 30 gallons of water and boil for two hours or until the sulphur disappears from the surface. Add water if necessary.

Fifth—The lime is injurious to the wool, and if sheep are to be dipped while carrying the fleece, the following precaution should be taken: Place the solution in a barrel and allow to stand until the sediment has settled. Then carefully draw off the solution without stirring up the sediment. If sheep are to be dipped just after shearing, this precaution need not be taken.

Sixth—To the solution thus obtained, add enough water to make 100 gallons.

### Tobacco and Sulphur.

Tobacco leaves .....1 pound
Flowers of sulphur.....1 pound
Water .....6 gallons

First—For every six gallons of dip needed place one pound of good leaf tobacco in cold or lukewarm water and allow it to stand 24 hours. On the evening before dipping bring this to near the boiling point for an instant. Then remove the fire and allow the infusion to stand over night.

Second—Thoroughly mix one pound of sulphur with the hand in a bucket of water to the consistency of gruel.

Third—When ready to dip, strain the tobacco infusion, mix it with the sulphur gruel and add enough water to make six gallons.

### Crude Oil Emulsion.

Water .....4 gallons
Soap .....4 pounds
Beaumont crude oil.....1 gallon

Preparation.

First—Shave four pounds of soap in four gallons of soft, hot water and stir until it dissolves.

Second—Slowly add one gallon of Beaumont crude oil and stir violently until the oil is cut and mixed with the soap suds. A large churn may be used for this purpose.—Dr. D. F. Luckey, Missouri State Veterinarian.

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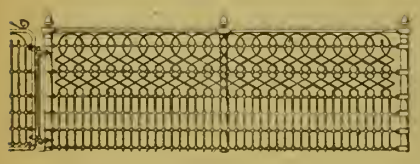

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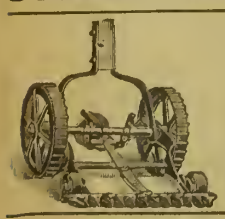

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# Small Fruits and Vegetables

## THE LIFE HISTORY OF THE CUT-WORM.

AT THE beginning of the growing season the gardener often finds in the morning young plants cut off near the surface of the ground that the evening before were strong and healthy. On stirring up the soil near by he may find hidden in the ground a greasy-looking caterpillar, the culprit in the case. Cutworms, so called from this habit, are the caterpillars of dull-colored night-flying moths of a great variety of species and varying to some extent in their habits. As a general rule they are partly grown at the approach of winter and hide away in a torpid state during the cold weather; when restored to activity by the warmth of spring, which causes the buds to open and the growth of plants to begin, these worms come out in search of food and attack any kind of tender vegetation that they meet with. They are nocturnal in their habits and hide away during the hours of daylight under any shelter they can obtain or just below the surface in the loose soil of newly made beds. Owing to their destructive practice of cutting off a whole plant in order to devour a portion of its foliage, they do a great deal of apparently needless damage.

After they have become fully grown they change to the chrysalis stage in the ground and in early summer the moths appear, many of them making their presence known in our houses by their attraction to light. Before very long another brood of caterpillars comes upon the scene, often more numerous and more destructive than the first. Some of them climb up into fruit trees and destroy the foliage, others attack farm crops, vegetables, grape vines, the plants in flower gardens, etc., while occasionally a single species appears suddenly in enormous numbers and sweeps like an army over the land devouring everything that comes in its way.

Happily a very simple and completely effective remedy has been found for these destructive creatures. It is called the "poisoned bran-mash" and is made in the following manner: Mix half a pound of Paris green in 50 lbs. of bran (the proportion for larger or smaller quantities is 1 to 100); the poison should be added to the dry bran little by little and stirred all the time till the whole is tinged with the green color, then add water sweetened with sugar or molasses, till the mixture is sufficiently moistened to crumble nicely through the fingers. If bran cannot be procured, shorts or flour may be used, and for field work may be distributed dry by means of a seed drill. The mash should be scattered in the evening about the plants that are liable to attack, and strange to say the worms will devour it in preference to their ordinary vegetable food. When they begin to feel the effects of the poison they wander off to find a hiding place or burrow in the ground and there die. Their dead bodies will be readily found in the morning just below the surface of the ground, often in surprising numbers. Young plants, such as cauliflowers, tomatoes, etc., may be protected when set out by wrapping a bit of newspaper around the stem between the root and the leaves and reaching a little below the surface of the ground. The worms will not attempt to bite through or climb over it.—Canada Fruit Grower.

## THE IMPORTANCE OF PLANTING GOOD SEED.

SUCCESS in gardening depends upon many factors; one of the most important being the planting of good seed. By the term good seed we mean seed that when planted in good soil and given the proper care and attention will germinate well and produce strong and hardy plants. Very often a whole season's labor, as well as crop, is lost by planting poor seed. It is hardly necessary to define poor seed, but it will suffice to say that seeds are poor when they fail to germinate under good conditions. This failure to germinate may be due to the seed being too old or not fully matured. Old seed may be detected by their musty appearance and lack of bright color that usually characterizes good seed. Seeds that are not fully matured have more or less a dull color and are not plump.

As most of the seed that is planted by gardeners is purchased from dealers it is well to know something of the reliability of the firm and where the seed was put up and grown. A reliable seed house soon establishes a reputation for putting out good seed, consequently it is always better to purchase from such houses.

After the gardener has purchased his seeds he can be doubly sure of their quality by testing the different kinds. This testing can be done as follows: Take an ordinary china plate with a flat bottom, cut out from soft cloth two circular pieces the size of the plate. Thoroughly wet both, spread one over the bottom of the plate, and place on this one hundred seed of the kind that is desired to test and then put the other cloth over the seed. Cover the plate with a pane of glass and set where the temperature will be from 60 to 75 degrees. In a few days the seed in the tester will sprout and can be counted. By counting those that fail to sprout and subtracting from the whole number put in, the per cent of good seed can be determined.

If the results from any of the lots tested show a low per cent of germination it will be to the interest of the gardener not to plant that lot, but purchase new seed from a reliable source for his garden. In case it is inconvenient to buy new seed the old may be planted; but in doing this the seed should be sowed thickly so as to insure a good stand and allow for the number that will not germinate.

In connection with the above it is very important that the gardener plant his seed right. Before planting, the seed bed should be put into good condition and properly prepared. After doing this the seed may be planted, but do not plant them too deep. Many failures to secure a good stand can be attributed to this cause.

Small delicate seeds as the lettuce and celery, should be only slightly covered, while the stronger seeds, as peas and beans, can be planted deeper, say from one to three inches. After planting the seed it is necessary to apply water to the soil. Be sure to put on enough, and often enough to insure good germination.

A little forethought along these lines mentioned will greatly enhance the gardener's chances to secure a good stand of plants and reap a good crop.—J. E. Mundell, New Mexico College of Agriculture.

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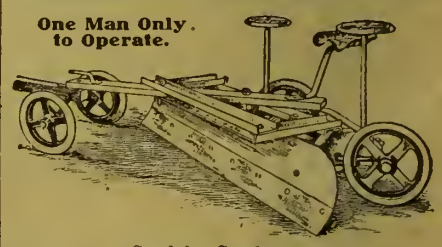

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The prune crop at Biggs, Butte county, is reported exceptionally good.

# The Ornamental Garden

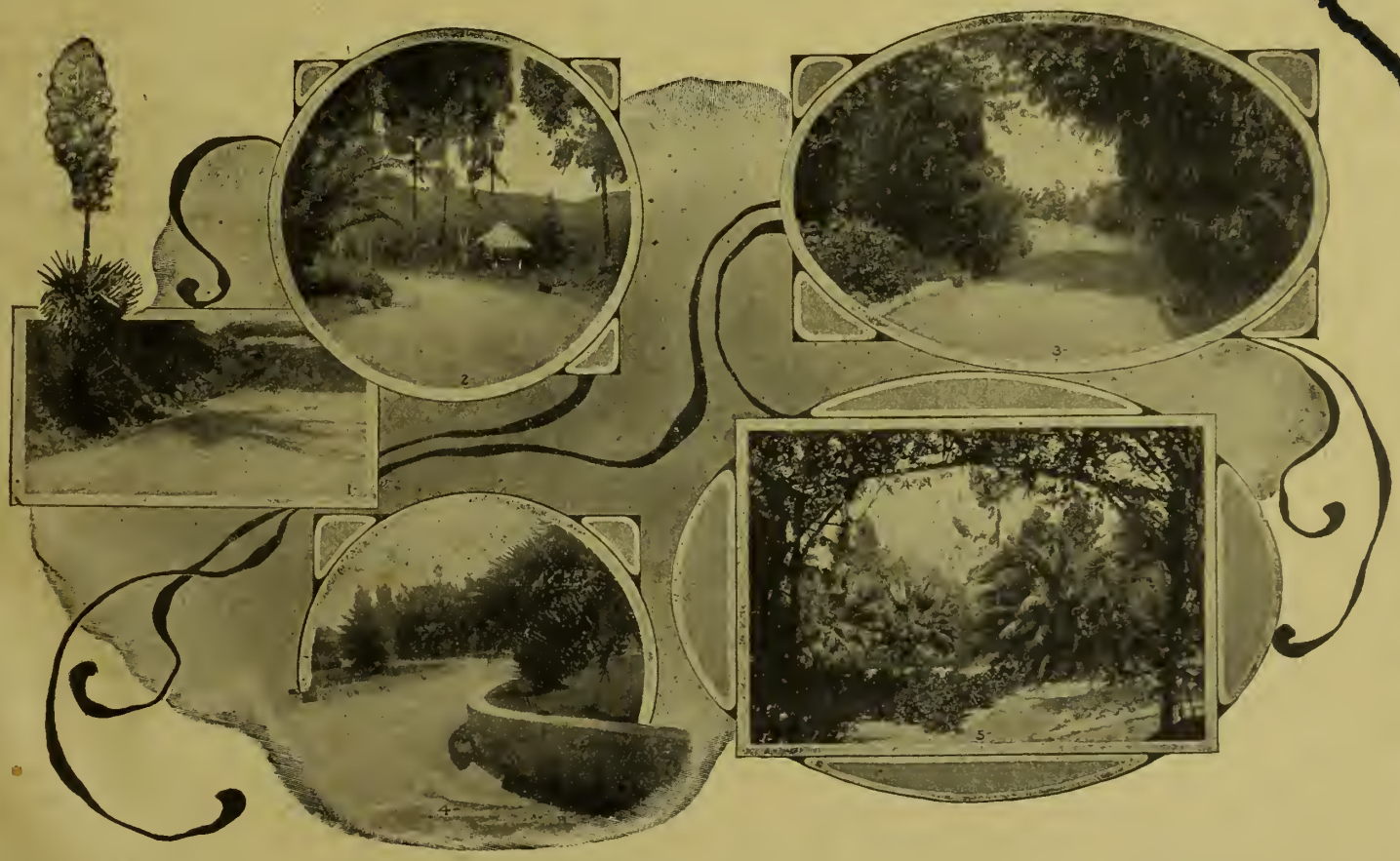
**DESIRABLE HARDY FLOWERS.**

TREES and shrubs have certain utilitarian values aside from their power to afford satisfaction and pleasure with their beauty. With flowers the chief asset is this aesthetic quality. Nor should they be disregarded or neglected on this account. The farm grounds have need of them to add brightness and cheer, for flowers relieve monotony, introduce color and make gorgeous displays. Those plants that can be used for this purpose may be grouped under the following heads: Annuals, such as asters, marigolds, petunias and shirley poppies; bedding plants, such as coleus, geranium and heliotrope; and herbaceous perennials, like the iris, the oriental poppy, the peony and phlox. Of these classes the herbaceous perennials are the most satisfactory for the farm gardens and borders; for they are just as showy when in bloom as either of the other classes. If anything, they are easier to manage and need less care during the growing season. Then there is not the necessity for yearly renewal that there is with annuals and bedding plants. Yet this does not mean that we should disregard all save the herbaceous perennials. These should form the framework of the plantation and annuals should fill in open spaces to give variety and to insure bloom at seasons when the perennials have little to offer. The occasional use of a bedding plant like the heliotrope, the lemon verbena or the rose geranium, will lend added pleasure and charm.

In placing these plants it will be best to have them in borders. Sometimes, when there is great love for flowers and ample time to care for them, it will be desirable to have a simple garden. Never should there be detached beds scattered about the lawn; these disturb the restfulness and unity of the grounds, and are ill-adapted to a good display of our flowers. Borders are in reality long narrow beds, and may fringe shrubberies, skirt walks, or stand against the walls and buildings. The effectiveness of the display is enhanced if there is an appropriate setting or background, for there is need of a mass of green to relieve the bright colors of the flowers. By all means some of these borders should be so placed that the flowers can be enjoyed from the living rooms of the house.

Now it remains to discover the principles determining the number and disposition of the plants. First of all, have no patience with bare ground. There should also be a proper proportion between varieties. A single border should never be entirely given over to one thing, not even when there are a number of borders. There should be a nice proportionment and distribution of varieties. Likewise, especially in the garden, there should be some feature for each period of the garden season. There should be a predominant note with which all else is in accord. In this connection it is well to emphasize the need of continuous bloom. Then attention should be given to height graduation. Usually the tallest plants should be in the back and the lowest in the front. This arrangement permits the flowers of all to be seen to the best advantage and avoids the shutting in of smaller and weaker plants. However, we should not adhere too strictly to this, else there will result sameness and monotony. Occasionally the taller plants should come forward and the lower recede. In the final disposition and combination of flowers, color is a most important matter. There should be a pleasant distribution of color throughout the garden or border and there should be perfect harmony.

The soil should surely be as good as that of the kitchen garden. If necessary it should be replaced or ameliorated. It should always be abundantly supplied with plant food in the form of well-rotted barnyard manure.—St. Joseph Fruit Grower.



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# California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, July 8, 1909

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants' Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

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S. A. PEASE - Plant Diseases and Injurious Insects
MRS. FRANK METCALF - - - Poultry

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.


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## NOT A TRUST.

Referring to the effort on the part of the Imperial Valley melon growers to form a co-operative marketing organization, the Imperial Standard says: "With a crop into the production of which any firm can enter on six months' notice, it is impossible to create a trust such as that of the orange men, and the most that can be hoped for is to bring about a harmonious agreement between the parties in interest for the protection of the rights of all."

As to the fact of outsiders producing a crop on six month's notice, what the Standard says is probably true; what it says as to the orange exchange being a trust, we do not believe states the case as it should be stated. We do not believe the orange growers' organization is in any sense a trust or combination to boost prices.

In fact, one of its fundamental principles is delivering fruit for whatever the market will take it for. So far as we know there has never been a combination or effort to control prices. It is simply a class of business men organized to place their own product on the market so as to give returns to the owner of such fruit and not be jobbed in the deal. For over fifteen years this policy has been followed and its success is self evident. If the melon growers of Imperial Valley will put their industry on an equally business like basis, we believe they will be led out of the woods and secure more satisfactory returns, and the consumer will pay no more for the fruit he uses. This is proved to a certain extent by the fact that the consumers this year are paying no more, so far as we can see, for cantaloupes in the Los Angeles markets, than they did last year when the producers got not one penny. There is simply less juggling with the producer and consumer, and this will still further be reduced with co-operative methods of handling the fruit, the consumer getting the fruit at the least possible cost.

## HEREDITY.

In last week's poultry department was a short reference to egg production of the daughters of "200 egg" hens, which was based on results of experiments made at the Maine Experiment Station. That article stated that:

"In this experiment the daughters of 200-egg hens were not such high egg producers as pullets whose mothers' egg records fell in the 150-200 egg class. The daughters of the '200-egg' hens were most inferior (proportionately) to the "unregistered" pullets in respect to winter egg production."

We believe the same fact has been observed with reference to the daughters of phenomenal milk and butter producers. Some breeders have too quickly jumped to conclusions and maintain that this proves that there is nothing in heredity, and have added with reference to poultry that the barnyard scrub is just as likely to produce a large egg producer as is the carefully bred bird. It is very probable that this belief is limited, for practically all intelligent observers maintain that, as a rule, a carefully selected, well bred animal has long odds in its favor over the accidental producer. To be sure, there have been race horses and large producers in various lines of animal breeding which have come from unknown parents. This is, and always will be, a feature of animal breeding never fully explained.

It is easily understood, once we stop to think, that the cow which is producing immense quantities of butter fat and is crowded to the last limit of her physical endurance in doing so, has little vitality to give to her offspring. The same is doubtless true with poultry, and when the "200 egg hen" gives so much of her vitality to producing those 200 eggs, it is possibly wise to choose the eggs which are to produce the succeeding pen from other birds of the same strain which have not given up so much of their vitality to egg production. But let not our breeders for a minute consent to the idea that an entire pen of birds which have proven themselves low in egg production, will give a high percentage of exceptionally high egg producers.

## LEASING TO THE JAPS.

The Cultivator representative in the Newcastle section says that some three years ago many orchardists there leased their lands to Japanese contractors who have farmed them to the limit during the life of their contracts and have now turned them back to their original owners. The contracts at the time of making looked good to the owners, but when the contracts are terminated and the owner again takes possession, he finds the soil exhausted and producing capacity at so low an ebb that another period of three years may be required to put it back to where it was at the time he surrendered possession. The same has been found true in other sections where the Japanese have been encouraged to come in to lease land. It must be admitted that with labor conditions as they are, such contracts as the Japs are willing to make look very attractive to the owners, but they should look farther ahead and keep control of their own property. It is poor business policy to surrender possession of valuable property for a period of years without thorough knowledge of the methods which will be followed by the lessee.

## MR. NEFF CONTINUES INSTITUTE WORK

Farmers' Institute work of Southern California will be under the direction of Mr. J. B. Neff of Anaheim who has had to do with this work for the past three years. He is now arranging for institutes which may be held in the near future, and farmers of the southern part of the state who may be interested in having institutes held should get in touch with him.

## ALFALFA METHODS.

(Continued from Page 27.)

2. After the first crop, I irrigate twice for each cutting, building levees just high enough to hold water over land well.

3. I always prepare the land in good shape before seeding but have never inoculated seed or land.

4. I have always seeded in spring, sowing broadcast. I sow the seed as I buy it and sow about twenty pounds of seed per acre.

5. This season I cultivated my field with a disk that is built for that particular purpose and sowed about thirty pounds per acre. I had a fine crop cut off it. For several years I have sown about four hundred pounds of gypsum per acre. The use of it shows good results, but I have heard that its continued use would impoverish the land.

6. I don't have much foxtail in my field.

7. I usually cut four crops but last year had five.

8. Sell a good portion of my crop and only pasture late in the fall before the rains, but don't let stock run on it when the land is wet.

10. I leave land in alfalfa for several years.

11. Think an orchard a poor place to grow alfalfa.

12. In curing alfalfa I have to be governed by the weather, but the idea is to not let it get too dry, but let it cure in shocks. Have never used caps.

**J. C. Westfall, Sycamore, Colusa County.**

1. I grow the common variety of alfalfa. Have not tried Turkestan or Arabian.

2. I irrigate, building banks or levees twelve inches and let water stand from one to six inches.

3. I plow twice, giving the first plowing, as soon as rain has started vegetation, and the second as soon as danger of hard frost is over, which is about the 20th of February here. I harrow land down until it is firm. Do not inoculate seed or ground.

4. I sow from the 20th of February until the first of May. Have tried from twenty pounds of seed up to forty pounds per acre. I find twenty pounds per acre plenty. I clean my seed the very best that I can and exclude everything and sow broadcast. Do not plant nurse crop.

5. I do not disk, but think it a good idea on old clover. Have never used any fertilizer.

6. I get foxtail on old clover. If the weather is favorable for haying, I cut first crop, as soon as first foxtail heads appear, so that it does not damage the hay. If the weather is unfavorable at this time, we stack it and feed it on ground to outside stock.

7. We make five and six cuttings a year.

8. We sell some hay and feed some on the place. Sometimes in the dry part of the season, we pasture stock. Have had some trouble with bloat.

9. We are bothered with gophers and foxtail. Run the gophers out by irrigation and kill with shovels. Handle the foxtail as above stated.

10. Leave field in alfalfa as long as can hold a good stand.

11. We have not grown alfalfa in orchards. I think it would be all right where there is plenty of moisture.

12. When first blossom appears we cut for cow feed; a little later for horse feed. Rake as soon after mowing as rake will gather it well, then put in small cocks and let it cure in the cock. That saves the leaves. Have never used any covers for cocks in the fields.

The proper length of time from one crop to the next is about five weeks. Plenty of moisture at seed time insures a good stand. Sandy soil which drys out quickly should be harrowed thoroughly after sowing. Run a clod masher or slicker over it to finish with. I don't use any summer irrigation. Don't need it. I irrigate in the winter when the river is high, for the purpose of exterminating the gophers. Our last two cuttings would be benefited by irrigation but have no way of doing it when river is low except by pumping.

**Mrs. M. E. Sherman, Fresno.**

1. I have one acre of Turkestan alfalfa and four forms of Arabian planted this spring, but as the spring has been most unfavorable for new planting I cannot form an intelligent idea of the value of these forms from this season's work.

2. I prefer to level the land carefully so that no checks need be over two feet high, making them broad and sowing alfalfa on them, then running the water over the land slowly and not allowing it to stand to any depth for more than a couple of hours.

3. We plow deep early in the season, leaving the ground rough to catch all the rainfall. Two

(Continued on Page 40.)

# Agricultural Notes of the Pacific Coast

## Northern California

The cherry crop is practically all shipped.

Meridian, Sutter county, reports immense yield of grain.

Meridian, Sutter county, distributes $1500 a month to dairymen for cream.

Yolo county finds its hay crop better than it was anticipated a few weeks ago.

Canners at Biggs, Butte county, are offering $15 for free stones and $20 for Phillips clings.

Red Bluff prune growers sulphured prune trees extensively to prevent attacks of red spider.

Sacramento will ship 10,000 bottles of wine for free distribution in Los Angeles during the Elks' Convention.

The state road from Placerville to Lake Tahoe is being put in better shape this year than it has been formerly.

While the output of fruit will not be so large this year as last, it appears now that the returns for it will be more satisfactory.

A corporation has been formed under the name of the Standard Cheese Company which will do business with cheese in San Francisco.

A new ditch company has been organized at Greenview, Siskiyou county, to convey water to lands which have heretofore been dry.

Vacaville shipped 67 cars of green deciduous fruits in one week recently. This is lower, however, than the shipments for same date last year.

Farmers near the Alameda Sugar Company's factory were planting beets up to one week ago, which it is expected to harvest yet this season.

Marysville and surrounding towns will ship large quantities of fruit and other products of that section for distribution to the Elks in Los Angeles.

Los Angeles capitalists are investigating conditions near Oroville with the intention of establishing a sugar factory there if proper inducements are offered.

Investigations by United States engineers and levee commission find that the channels of the Feather and Sacramento rivers have been scoured and are in much better condition than usual.

Mayor White of Sacramento has issued a call for a convention to be held in Sacramento July 21st for the purpose of discussing dredge mining and its effect upon the rivers and upon agriculture.

An effort will be made by the authorities of Contra Costa county, who may also be joined by federal and state authorities, to wipe out a large number of ground squirrels which are said to be infested with bubonic plague.

The following prices were paid by the creameries of Humboldt county to their patrons for the thirty days preceding June 15th: Grizzly Bluff Creamery, 28 cents; Pioneer Creamery, 28; Capital Creamery, 28; Central Creamery Company, 29½.

Inspector Severin who has had oversight of the inspection of the butter being received by the government from Humboldt County creameries reports that he never saw a more uniformly high-grade of butter than that put out by the creameries.

## Central California

Some cars of Santa Clara cherries have sold for as high as $3000.

Arizona thistles are proving perplexing to farmers at Porterville.

About a hundred tons of raisins are being packed at the Madera packing house.

A seedless watermelon is one of the products grown by a Porterville farmer.

The Pajaronian predicts the banner year for Pajaro Valley apple growers.

The spraying for the first generation of codling motn is over in Pajaro Valley.

A fine flow of water has been struck in a well recently sunk at Terra Bella, Tulare county.

Some Hanford apricot growers have disposed of their dried crop at eight and one-fourth cents.

Some exceptionally fine tomatoes are being grown in the foothill section of Tulare country.

A young boy of Hollister county recently ate cherries and drank milk and died within an hour.

The recent warm weather has caused great increase in the flow of the rivers, but the rise has not been so great as anticipated.

Madera reports the thorough cleaning up of the white or cottony cushion scale by colonies of vedalia which were distributed in that section.

Hanford vineyardists are considering the advisability of establishing a grape juice factory. A plant with a $25,000 equipment is contemplated.

The Pacific Evaporating Co. at Watsonville will dry apples this season using oil fuel. This will be a new departure in fuel for fruit evaporation.

The district forester has made a thorough inspection of the Monterey forest and finds splendid trails which have been made to better control forest fires.

Some peach orchards in Fresno county are showing a falling of the fruit which will materially reduce the crop. Splitting of pits is also a serious trouble this year.

The farmers near Salinas who guaranteed the liquor accounts of Japanese laborers were let off easy by the internal revenue officers as to their fines, owing to its being their first offense.

Raisins have been commanding a much more satisfactory price for the past few weeks, and many growers are of the opinion that the opening price for the new crop will not be less than three cents in the sweat box.

At the recent annual meeting of the Porterville citrus association, the following named gentlemen were elected directors: F. D. Bailey, E. O. Giddings, H. C. Carr, Peter von Ting, W. L. Loss A. Chalmers and A. Milligan.

At the recent annual of the Zante citrus association, Tulare county, the following directors were elected: V. D. Knupp, Wm. Duncan, E. E. Graham, W. L. Hemphill, C. N. Flanders, G. L. Robbins, J. F. Canty. Henry Grant, in view of his efficient service in the work of the association was chosen for the manager of the packing house for the coming year.

## Southern California

Apricot dryers are busy people at San Jacinto.

The flood of the Colorado is now ebbing rapidly.

The grain harvest in the Imperial Valley is closed.

A stack of 115 tons of hay recently burned at Imperial.

The La Habra farmers' club held an interesting meeting last week.

The cherries in the Yucaipe Valley, San Bernardino County, have been of exceptionally good quality this year.

Land owners at Saticoy, Ventura county, will greatly extend the irrigated area of this region.

The farmers at Mound, Ventura county, recently held their annual picnic, over 60 members being present.

A little slice of the eastern warm weather seems to have been given to Southern California in the last few days.

The Covina farmers' club recently held its annual picnic at Walnut Creek, having an exceptionally good picnic dinner.

Anaheim potato growers have found this a most successful season and have shipped large quantities of a fine product.

The Southern California Dairy Association consisting of 450 dairymen and farmers about Los Angeles has been organized.

Santa Ana ranchers have found coyotes so plentiful that several young ones have been run down and captured by farm hands.

Owing to good prices at Prado, Riverside county, hay producers are selling as fast as hay is baled and none has yet gone into storage.

Plans are being drawn for a packing house to be built at Highland, San Bernardino county. It is proposed to make it large enough to handle lemons from 150 acres.

The Los Alamitos sugar beet fields are looking exceptionally well, and a bumper crop is assured. The work of cultivation is practically over except the final hoeing.

A walnut growers association at Orange is advertising for bids for the erection of a new packing house. The building will be 50 by 108 feet and will have sixteen bins.

State veterinarian, Chas. Keane advises the abolition of public watering troughs in order to control the disease of glanders which has spread more or less over the state.

J. W. George, President of the Imperial Valley Beekeepers Association, thinks that a price of five cents a pound for honey, or a little better, can be maintained through the season.

The grain crop of Riverside county is estimated by the Riverside Press to be worth over two million dollars, or as the Press says, the most valuable crop in Riverside county. It will require over sixteen cars to ship it.

The vegetable gardens of Orange county have been in part taken up by Japanese farmers. Especially is this true in the celery fields, but instead of competing with white celery growers, the Japs have joined the cooperative association, and two Japs have been admitted as members of the board of directors.

## The Coast

The water in the lake at Roosevelt dam, Arizona, is 110 feet deep.

Colorado will hold a national apple exposition December 6th to 12th.

Floods in Colorado earlier in the month did great damage to farm crops.

Walla Walla county, Washington, will produce 5,000,000 bushels of wheat this year.

Denver milk men raised their price on milk on July 1st thirty-three and a third percent.

The fourth Dry Farming Congress will be held at Billings, Mont., October 26th to 28th.

The gate receipts show that over a half million people have already visited the A-Y-P Exposition.

The sugar factory at Glendale, Arizona, is now turning out 2000 sacks of sugar every twenty-four hours.

The labor troubles between the planters and the Japanese of the Hawaiian Islands, have largely subsided.

A hop grower at Independence, Oregon, has sold his this year crop of hops at fourteen and three-fourth cents.

Multnomah county, Oregon, bought its poor farm some years ago for $20 per acre and sold it recently for $765 per acre.

The big Laguna dam between California and Arizona stood the test of the recent floods without showing the slightest strain.

The Interstate Fair to be held at Spokane is offering cash prizes to the school boys of the state for the best ten ears of corn.

A farmer at Grand Junction, Colorado, has developed a wheat which he maintains will yield on an average 80 bushels an acre.

The flood of the Colorado River has passed the crest, reaching nearly thirty feet. It did no great damage to farming lands of Arizona.

Owing to heavy rains the reservoirs constructed for irrigation in the Hawaiian Islands have been filled with water as never before.

The state college demonstration train made an extended trip during the closing days of June through all of Northwestern Washington.

The three reservations to be thrown open to public entry in Idaho, Montana, and Eastern Washington aggregate 70,000 acres of land.

The dam which holds the water in the Antero reservoir in Colorado is over a mile long and controls the water for irrigating 55,000 acres of land.

Twenty-five men formed in line in the land office at Lewiston, Idaho, on June 22nd, and propose to hold their position until the time of filing on August 2nd.

A farm at Culver, Washington, which in the past had yielded only nominal returns, yielded the past year under dry farming methods $3,396 above all expenses.

The National Public Domain League held a meeting in Denver July 1st to protest against the method of the national government in setting aside so much land in forest reservations.

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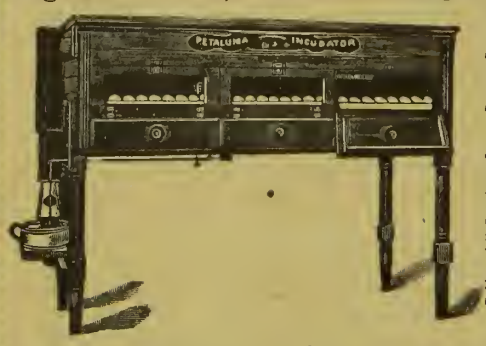


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We are the exclusive agents for the **A. I. Root Co., Medina, Ohio.** Our hives are manufactured from selected California Sugar Pine. Branch houses at Los Angeles and Elk Grove, Cal. Write for Catalog. We also manufacture orange, fruit and packing shook, drying trays, etc. Beeswax wanted.

**Madary's Planing Mill,**

**Fresno, California**


# Profit in the Poultry Yard

By Mrs. Frank Metcalf

**We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.**

## A MODEL PLANT.

A COMPANY has been formed to build up the largest broiler plant in the United States, at Inglewood, Los Angeles county.

The Company is incorporated at $100,000, and owns 40 acres of fine land southwest of Inglewood, upon which it is now erecting the finest and most improved type of poultry houses. The breeding house proper is 580 feet long, the brooder house about the same length, and the Adminstration building, incubator cellar, to hold 1,500 eggs, and dwelling are put up after plans originated by the manager, D. H. Hammons, and are unique.

Mr. Hammons has found that there is money in raising the best of milk-fed, crate fattened broilers for the Los Angeles hotel trade, and has raised some thousand yearly on the magnificent ranch owned by the same management in Highland.

He believes the cool breezes at Inglewood will allow of raising chickens the whole year,

Mr. Hammons has demonstrated that more fowls can be kept on less land than many persons believe. He never lets his birds out-doors. His houses are two story and the earth beneath each house is removed to a depth of 15 inches and the space filled with clear, sharp sand, analyzed and known to contain certain minerals, and the character of the soil originally makes little difference, although this plant is on sandy soil.

By this style of house, using his method of feeding, a method which he has reduced to an exact science, he finds it possible to keep 10,000 laying hens on an acre of ground, and keep them in perfect health and laying all the year around. Not that he expects every hen to lay an egg every day, but he does expect each hen to produce an egg every other day during her first year's laying, beginning at six months old, sometimes less.

He calls his breeding house; "The Economy" and says the cost of the building is 62½ cents per laying hen, or $1.00 per breeder, as he only keeps 10 breeders in each house, but 16 layers may be profitably kept in each one.

As his houses take up a space of ground of but five feet by eight, on the ground he figures that the cost of the land per hen, with land at $250 per acre is but two and one-half cents per hen.

The labor of caring for the birds in this house has been minimized to a fraction of the time usually necessary on large plants. When this plant is in operation, it will doubtless be widely copied, as Mr. Hammons is willing that anyone should do so, providing they will take the trouble to come and examine the details, for themselves.

To prove the efficiency of this house I will append the record of 16 pullets kept in one, never having been outdoors in their lives.

Out of a hatch of 26 White Rock chicks, May 14th, 1908, 25 were raised in a fireless brooder, were weaned from the brooder at eight weeks, and the 16 pullets were placed in an open front Hammons Economy house.

A Petaluma Poultry Yard.

Floor space five feet by ten, sand floor, house fronting south. November 1st a record of eggs was begun. From November 1st to May 1st these pullets never laid less than eight eggs any one day, and have laid as many as 14 eggs in a single day. The general average for the entire seven months was 12 eggs per day from these 16 pullets.

The average feed cost per dozen eggs was six cents, green food not counted. These birds are still confined in this house at the present writing, and are still doing well. This house allows but three and two-thirds feet of space to each bird.

The feed consisted of grains and green food once a day and a hopper of dry mash, composed of beef scraps and grains, oyster shell and charcoal, with fresh water before them at all times. The grain being fed in a litter of about of about six inches of cut straw, compelling exercise.

The house was sprayed twice a month with a three per cent solution of creolin. Only two have gone broody and their general health has been of

the best, exploding the theory of large runs or free range being at all necessary for best results from poultry.—Mrs. Frank Metcalf.

## POULTRY QUERIES.

### Plymouth Rock Eggs.

Can you give me any information on how to hatch Plymouth Rocks in an incubator? Do they require more heat and moisture, and if so, how much? If you will answer this you will confer a favor on yours truly,—C. A. R., Gridley.

Plymouth Rock eggs do not require any more moisture or a higher degree of heat than any other eggs, although it is claimed that Leghorn eggs will hatch at one degree less than will the eggs from any of the larger breeds. This we have never proved by experiment, so take it with a "grain of salt." As to moisture, be sure to procure one of the new Hygrometers, if your machine is not already provided with it.—Mrs. Frank Metcalf.

### Blood Meal.

I would like to know through the columns of your valuable paper if blood meal takes the place of beef scraps in a balanced ration for hens or if it is necessary to feed both. Would beef scraps keep in a warm climate like Arizona. We cannot obtain it here.—Subscriber, Douglas, Arizona.

Blood meal cannot take the place of beef-scraps in the ration, and can be dispensed with to better advantage than can the beef scraps. I do not use the blood meal at present, but do use fresh green cut bone twice a week in addition to a liberal allowance of the beef scrap in the mash. As hens begin to moult the protein can be increased gradually.

Beef scrap should keep perfectly in Arizona, as it is dry there, and your best way is to have a full 100 weight sent from the dealers in poultry supplies at your nearest city.

The granulated milk is another good food rich in protein, much relished by the hens. It can be substituted for the blood meal with good results, for the hens do not usually relish the blood meal for some reason.—Mrs. Metcalf.

## SULPHURING POULTRY HOUSES.

M. E. Miller and Sons. valued subscribers of the Cultivator, located at Paramont Ranch, Ritchey, Amador County, write us giving the following useful points as to the use of dry sulphur in chicken culture. They say, "Dry sulphur sprinkled around the coops, especially along the roofs and in cracks, will prevent chicken mites. We sprinkle our coops with sulphur about every two weeks, and there is not a mite to be found either on the coops or on the chickens. In making nests, we put in ashes and then straw and sprinkle with a little sulphur on top. In fact, we find sulphur invaluable in the chicken business."

In handling geese they should always be taken by the neck, and when lifted from the ground the body should be turned with the back toward the person handling it. In that position it cannot strike, and will remain quiet and docile. The body can be partly supported by seizing the first joint of the wing with one hand. If the goose is held facing one, it will strike hard blows with its wings, or scratch with its feet.

Nest boxes should never be permanently attached to the building or to each other. Each one should be separate and easily movable, and in this way they may be frequently removed to the outside of the building and scalded with boiling water, painted with lice killer and thoroughly renovated in this or any other way that will accomplish the desired end.

Now is the time of year that the ever present question pervading the family council is, "Where shall we go, or what shall we do this summer?" The planning and scheming period is now upon us when our thoughts turn from the sordid pursuits of city life; for man hath need of rest and he longs for the simple joys the country yields. We all wish to set aside for awhile the cares and worries of business and visit the Blessed Isles of rest and recreation.

To aid you in selecting a place for your outing or to locate your family for the summer so as to make possible week end trips, the Northwestern Pacific Railroad, the Picturesque Route of California, has issued a book called "Vacation." This book describes the garden spots and playgrounds of California in the counties of Marin, Sonoma, Mendocino, Lake and Humboldt. You can find in this book some place to suit your fancy and your purse, whether it is to fish, hunt, swim, rusticate on a farm, or visit the numerous mineral springs or resorts.

The issue of "Vacation 1909" is now ready for distribution and can be obtained from the Northwestern Pacific Railroad at the Ferry Ticket Office, the Up-town Office 874 Market St. and Room 986 (General Office) Flood Building, San Francisco, Cal.


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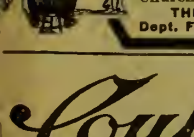

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At this time of year the hens are apt to begin falliug off in their laying, and it is necessary for poultrymen to keep them up as long as possible. If they stop laying too early and start molting, they are likely either to take a long time over the molt, or if they molt quickly to have another molt in the late fall.

A scientifically prepared Poultry Food like COULSON'S EGG FOOD, fed at this time will help greatly to keep the hens laying up to and well into their molting time, with consequent satisfactory profit to their owners.

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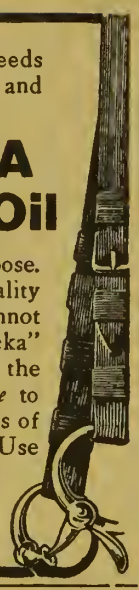

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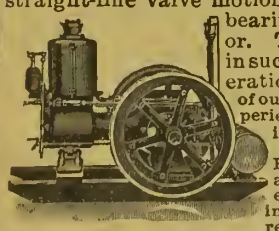

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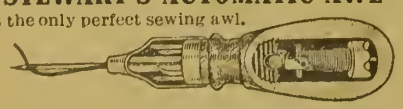

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# General Agriculture

## POSTAL SAVINGS BANKS AND VESTED INTEREST.

BY courtesy of the State Bankers Convention I listened this morning to Lovell White's opinions as to the proposed installation in the United States of Postal Savings Banks. By the applause which followed the reading of his paper his views obviously were adopted by the Convention, which also passed a motion for printing the document and circulating it widely. I assume, therefore, I am justified in believing not only that Mr. White voiced the sentiments of vested interest in the matter, but also that his argument comprised about all that can be said in opposition to the institution of Postal Savings Banks.

If so, this opposition must be sadly lacking in logical foundation. Far too many words were devoted to the when-your-case-is-bad-abuse-the other-side style of arguing. There was too obvious an endeavor to belittle the advocates of such banks by toploftically relegating them to the ranks of "half-baked" theorists.

This reproach, of course, in face of the hard facts as to Postal Savings Banks, proven by many years European experience, might far more justly be flung at those who would oppose their half-baked theories to the institution of such well accredited utilities. Britain for example, with $750,000,000.00 deposited in such banks, has enormously increased her non-governmental banking facilities.

Nearly all this ammunition was of the same recoiling kind. For example, he stated that one of the chief classes intended to be benefitted by these banks was the class of foreign immigrants. These, however, would not, he said, make use of them because they were so distrustful of government institutions in their native land. He entirely overlooked the fact that many of them come here for the explicit reason that they have faith in the American government, and even belied his half-baked theory, notably by investing during the late panic in Post Office orders, seeing there were no Postal Banks.

He denied that these Banks would be useful in outlying country districts because the pioneer never had a cent to spare to deposit in any bank. This in the face of the millions—I had almost said billions—of dollars annually wrested from the soil by lumbermen, miners and ranchmen living dozens of miles from either Savings Bank or Express office. He deplored the terrible need of enlarged house room and increased clerical staff that would follow so vast an addition to the Nation's business. This was as pathetic as the appeal of the British lord in the House of Commons who antagonised Rowland Hill's penny postage scheme because it would induce such a deluge of letters as should "burst open the walls of the Post Offices." Probably when Mr. White's business warrants larger buildings and a more numerous staff, he hardly deems it an occasion for wailing Jeremiads of coming failure, and mourning and woe.

"We ought," Mr. White further considered, "to be satisfied with present arrangements because failures were infrequent and losses infinitesimal." Mr. White probably has figures to substantiate this statement, but I imagine it will prove but cold comfort to the many who lost the major portion of their life's earnings in some 1907-panic-stricken bank.

Another bugaboo shaken to scare the sorely beguiled advocates of Postal Savings Banks was that their advent would destroy the equilibrium of investment, half in mortgages and half in readily convertible securities, at present customary in Savings Banks, because in panics, he averred, people would withdraw their deposits from ordinary Savings Banks to place them in Postal Banks. He omitted to say how much better this would be than hiding those same amounts in old stockings or safe deposit vaults. He omitted to say that moneys so handed to government could be at once restored to circulation and be the very best means of checking further panics.

These are fair examples, as cogent as any, of Mr. White's arguments. He further indicted the advocates of Postal Savings Banks, who by the way, he admitted were the majority of the people, as aiders and abetters of "Fraternalism" or "Paternalism."

An Alfalfa Plant.

At risk of being classed as an "awful example" of either, I yet venture to subscribe myself as, Mr. Editor.—Edward Berrick, President Postal Progress League of California, Pacific Grove, May 28.

## USE OF CHEMICALS ON STUMPS.

The chemical destruction of tree stumps has been rather freely discussed in trade journals from time to time, but there seems to be no definite information available concerning the efficiency of the various methods. Unfortunately the Forest Service has made no tests along this line and it is therefore unable to make a definite statement at the present time. There seem to be three favorite methods of destroying stumps by means of chemicals. In all of these methods several large holes are bored into the stump and are plugged up with paraffine-coated plugs, after having been filled with the chemical. In the first method, concentrated sulphuric acid is used; this is supposed to rot the stump out within from three weeks to six months. In the second method a mixture of concentrated sulphuric acid and concentrated nitric acid is used; this method is supposed to be somewhat more efficient than the first one. In the third method, the holes are filled with saltpeter which is allowed to [illegible] in them for about six [illegible] the end of that time the [illegible] moved and the stump is [illegible] with kerosene and ignited. Th[illegible] is supposed to be entirely cons[illegible]

## ALFALFA METHODS.

(Continued from Page 36.)

weeks before planting time we [illegible] four inches deep, harrow and cr[illegible] harrow until the ground is fine [illegible] smooth. We always inoculate seed [illegible] around. Prefer, however, to stir [illegible] seed into a mud made from soil fr[illegible] good alfalfa field. This requires le[illegible] labor and has been as successful with us as sowing the earth from an alfalfa field. The bottle cultures have not given us any great success.

4. March has been our most s[illegible] cessful month for seeding on good a[illegible] well cultivated soils. Twice we ha[illegible] sown in August; once with good su[illegible] cess; the other time it was nearly as bad a miss as this season. We broadcast with the little hand seed sower and then brush in with a brush harrow. Always examine the see[illegible] carefully and buy only that which is reasonably clean, screen it and then spend a few hours in picking it ove[illegible] by hand. We spread the seeds on a table covered with oil cloth, with th[illegible] legs on one side raised a couple [illegible] inches, pour out the seed and push [illegible] along, letting it drop off the end into a box put on a chair. The bad seed push off at the side away from the sorter and fall to the floor to be gathered up with the dust pan and burned. If the land is disposed to grow sunflower and bronco grass, a nurse crop of barley seeded on the ground before the alfalfa is brushed in, will help hold them down until the alfalfa gets a chance to grow strong enough to hold its own.

5. Disk after the second year, every winter, going both ways and re-seeding thin spots with barley and alfalfa mixed. (b) Have fertilized with gypsum, barn yard manure and bone meal, greatly increasing the crops.

6. If the land is well disked in the fall and re-seeded to barley and alfalfa there will be little foxtail to contend with. If there is much we make it into silage.

7. We make six or seven cuttings a year.

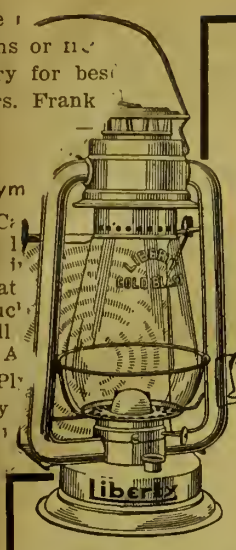
8. Feed at home. Do not often allow stock to pasture as it is wasteful. Have no trouble with bloat if cows are watched when first turned on the alfalfa and kept out only a few hours a day at first until they have grown accustomed to it as a feed.

9. Dodder is cut and burned on the infested spot as soon as it appears.

10. Alfalfa grows well for ten to fifteen years with us and is then turned under and the land cropped to grain, hay or corn, or planted to orchard or vineyard.

11. Have observed long strips of alfalfa in orchards and believe it is a good way to fertilize old trees if sufficient room is left for proper cultivation around the trees, but have never grown it in orchard.

12. We harvest when the first glimpse of color can be discovered. Would rather be too early than too late. A day after mowing in the very early spring we rake. Later it may be raked within a couple of hours after cutting. The less alfalfa is handled the better. Nature is too kind in California to make us put night caps on the hay cocks.—M. E. Sherman.



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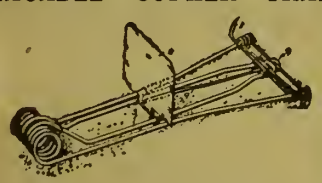

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1. The common variety of alfalfa is grown exclusively in Arizona. Trials of Turkestan and Arabian varieties give promise of improvement, though we have not yet engaged extensively in experiments with them.

2. We irrigate. We irrigate chiefly in lands and the borders after settling are perhaps not over six inches above the level of land. Where land is level four to six inches of water is considered sufficient for one irrigation. Where sloping, the water is run over the land till it reaches the farther end.

3. The land is prepared for seeding by plowing six or eight inches deep and then pulverizing by any implements available till it is in thorough tilth. The disk harrow is largely used, also a drag made of lumber. Inoculation of seed or ground has not, to my knowledge, been practiced in Arizona.

4. Planting is most successful when done from September 20 to November 10 and in January and February. Twenty pounds seed per acre is considered the proper amount to sow. Most of it is broad-casted, but I have no doubt that careful use of the press-drill would give better results. Seed is made as clean as possible before planting. Best results are obtained without nurse crop.

5. Some farmers practice disking and many do not. The spring tooth harrow is used instead of the disk on adobe land, and still better is the spike tooth disk. Those who practice disking, disk only once per year. Lime and fertilizer have not been used to any extent in Arizona.

6. The first cutting is more or less mixed with mallow or foxtail, depending upon the individual and also the amount of pasturing it has had the previous winter. The silo is not used in Arizona. Weedy hay is sold for what it will bring or fed on the place.

7. Five to seven cuttings in the Gila Valley and Salt River Valley. Eight to ten at Yuma.

8. Hay may be sold or fed on place, depending upon the inclination of the individual. The prevailing practice is to sell. Stock are pastured any time of the year if field is not wanted for a hay crop. The hay fields are pastured in winter and many steers fattened for market in this manner, being brought in from the range. There is always danger from bloat. Stock men have told me the risk of loss from bloat is at least ten per cent. I believe this over-estimates the actual loss.

9. Our chief enemy to alfalfa is the root rot which we have not yet learned to handle. Disking frequently is recommended till more can be learned about the subject.

10. Alfalfa is allowed to occupy the field as long as it will stand any kind and amount of abuse and still produce profitable crops.

11. The growth of trees in alfalfa is not so rapid as in fallow ground. They fruit earlier but would not produce so great a yield. The practice is not a common one.

12. Alfalfa is cut when about ten per cent of the plants are in bloom, or when ten per cent of the blooms are out. Hay cut in the morning may be raked and cocked in the afternoon and baled or stacked the next day. Caps are not used for cocks.

Arthur Fell, El Centro.

I have had five years experience in growing alfalfa in the Imperial Valley. I began it because I had heard that alfalfa was the "king of crops and a mortgage lifter." It was my desire to get the king by the hand and in that way hold to the mortgage lifter. After securing my land and choosing that which I found most suitable for alfalfa I began leveling and bordering the land, being careful to make the borders not too large. I do not like too much dry dirt, for it makes harbors for red ants, field rats and squirrels, which become a great pest and live on the alfalfa while growing.

After the first irrigation settled the low land, and showed how badly we had levelled, we levelled again by working on the inside of the borders, which is a quicker and therefore cheaper way of putting it in satisfactory shape. After this re-levelling, we irrigated again, not only the second time but the third, before we got the levelling entirely satisfactory.

I sowed my first seed on September 10th. All seed started well, but some kept dying all through the fall. The next planting was made October 5th to 10th, this time sowing one-half the seed on top of the ground and harrowing in, and disking and harrowing the other half. Following this, of course, we irrigated most thoroughly; both sowings in this case doing equally well in starting though the half that was harrowed in kept dying for some time after it came up. I sowed again on October 25th, disking in the seed and putting it in very deep. It took the seed a long time to come up and it grew very slowly. On the 15th of December I sowed another field two borders wide which came up nicely. It was harrowed in and grew fully as well as that planted October 25th. Other sowings were made on January 20th and February 15th. The ground was treated about the same way, but the plants died out or drowned out in irrigating. The March sowing was also drowned out or dried out by the April and May winds. These sowings covered about sixty acres.

The second year we began by carefully plowing the land. The ground was much harder than that planted the first year. Seed was sown each month as in the previous year, but in each plowing of the soil the ground soaked up more water and kept the alfalfa growing longer without any more irrigation, which is a great advantage to young alfalfa. That is the reason the fall sowing did better and gives larger growth. Seed sown in February or March or later has to be watered more, which destroys the young plants (at least when they have only three leaves) as this is the critical period in the life of the young plants. Alfalfa should not be watered until it has the fourth leaf. The plants at this time have strength enough to break through the mud and dirt which may settle upon them.

Our experience in sowing is that it is best to sow on soft ground in October or November by disking and harrowing in the seed, later sowing by harrowing in. Plowing is certainly an advantage on the harder soil. In order to get a good stand or growth, one should be careful to have ground well irrigated before seed comes up, not watering after sowing until the fourth leaf appears.


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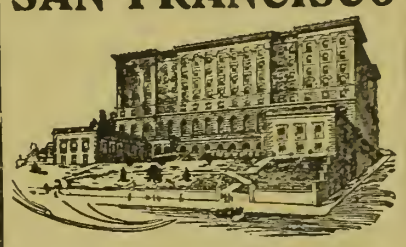

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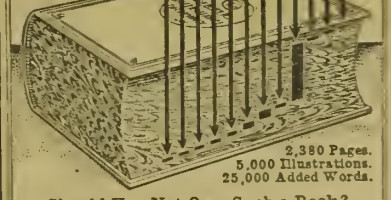

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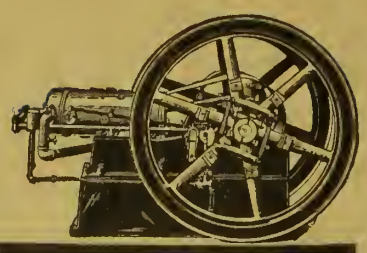
# A RELIABLE WATER SUPPLY FOR IRRIGATION



AFTER preparing the ground, sowing the seed and getting the crop well started, your greatest concern is for a reliable water supply. You *must* have water to irrigate in season. Your crop may be ruined in a single day for the want of it.

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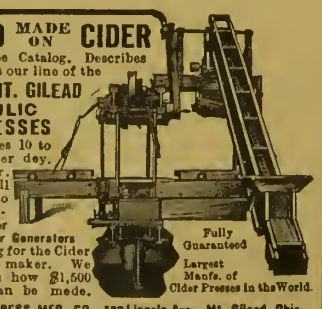

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# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Leaf-eating Beetles.

I enclose specimens of bugs which are eating leaves of fruit trees. They seem to go in the ground in daytime and come out at night. The ground about the trees is full of them. What are they? Will they kill the trees? What shall I do to get rid of them?—W. W. J., Buena Park.

The beetles are without doubt Serica fimbriata, and as stated are night leaf-eating beetles. They go into the ground in the daytime as they cannot stand heat. The remedy is to spray with arsenate of lead at the rate of three pounds to one hundred gallons of water, or you can shake them from the trees at night into something framed like an inverted umbrella and empty them into water with a little kerosene on top.—S. A. Pease, San Bernardino.

### Fertilizers.

Is gypsum anything more than a stimulant to plants, that is, to make the plant food already in the ground available? If it is only a stimulant, isn't there danger of ruining land by its continual use?

Is there any danger from use of phosphoric acid and potash? There is a good deal of both used here on the alfalfa fields.—D. F. C., Modesto.

We do not think gypsum could be called a stimulant in any sense. It does, however, make the inert plant food of the soil available and if continued many years does for that reason reduce in time the producing capacity of the soil. It is not a fertilizer but does have a beneficial effect on the soil and is used often with great profit.

Of course it might be possible to add phosphoric acid and potash in sufficient quantities to injure crops, but with so expensive materials it is hardy probable. They are both plant foods, and used properly can only benefit the soil.

### Squirrel Exterminator.

To get rid of squirrels our ditch tender uses pieces of sacks, about two by four inches, dipped into melted sulphur that has sheep dip added to it. These he dries and sets on fire in the holes, being careful not to cover the sulphur with dirt when filling hole. I have read the Cultivator a great many years and always look to it as an authority.—D. F. Conant, Modesto.

### Free Poisoned Wheat.

A Los Angeles subscriber has asked if the state distributes free poisoned wheat to be used in the destruction of ground squirrels. We have never heard of any such distribution, and in reply to our letter to the State Agricultural Society, the Secretary informs us that he thinks the State University publishes a formula for poisoned wheat, but knows of no provision for its distribution.

### Berry Questions.

"Kindly name the difference in days in time of ripening of the following dewberries: Gardena, Austin, Premo, Lucretia, also name the bearing qualities of each, especially in the interior valleys."

"What is the average life of the dewberry, and what kind of a crop should one expect the second year under favorable conditions?"—"XYZ"

The Gardena and Austin are one and the same. I have grown them side by side and it was impossible to detect the slightest difference. The fact of the matter is that the Austin happened to fall into the hands of a grower who saw wonderful possibilities for it in California and renamed it Gardena and sent it out as a new variety. With me it was at least ten days earlier than the Lucretia and has the habit of maturing its crop pretty much all at once—while the Lucretia continues often several weeks before the crop is all matured. Growers differ as to the advantage or disadvantage of this feature. The Lucretia is the finest in quality and I question if any known berry of the blackberry tribe equals it. I have had no experience with the Premo, but it is highly spoken of in the East. This, however does not argue that it will do well here. Only an actual trial will demonstrate that. The dewberry plantation should last many years if properly cared for—not less than ten. But the plants must be fed and kept clean and free from disease if the best results are wanted. A full crop ought to be had the second year. —Q. A. L.

### "More Bugs."

An item entitled 'More Bugs" appeared in your last issue. As I have been experimenting successfully with the fighting of this little brown pest, will give my remedy. These bugs work on the foliage at night only, hiding in the ground near the tree during the day. You can observe their holes about the base of the tree. To dispose of them, slack lime to the consistency of ordinary whitewash, apply freely for a foot around the tree and close up to it. The bugs will work their way out during the night, and some may find their way back, but apply again, filling their holes with lime. This last dose fixes them. They will not stay around the lime.—W. G., Chino.

# Legal Queries

**Edw. L. Payne, attorney, 301-304 Douglas Building, Los Angeles, will answer legal queries in this department.**
**Immediate mail replies cannot be given except where fee to Mr. Payne is paid. When replies are wished in Cultivator address query to 115½ N. Broadway, Los Angeles.**

### Seepage From Irrigation.

Is a person liable for damages if seepage from irrigating water used on his property collects on the lower lands of neighbors and damages crops?—W. B., Escondido.

If the seepage referred to is in spite of the care of the owner of the upper land, there is no liability, but if the damage to the lower land is caused by neglect or the deliberate turning of the water upon it, then the lower owner might have damages.—E. L. P.

### Stolen Invention.

Is there any way of securing my rights when I have made an invention which was stolen before patented and later patented by the party who secured it? Is there any way of prov-

ing the theft and of placing injunction on the marketing of it by the one who really invented it?—A., Kelseyville, Lake County.

I am not a patent attorney, but understand that the one who first conceives an idea, which is afterwards patented, may, in a contest brought for that purpose, establish the fact that the idea was his, and secure the right to the patent. There is legal machinery sufficient for establishing the theft, provided you have the necessary evidence. The proper course is to consult an attorney who makes a specialty of that business.—E. L. P.

**Liability For Pastured Animals.**

I put in pasture a mare with seven or eight months colt at her side and two other colts. The mare's colt fell in an open well. The mare then disappeared, was supposed to have broken over the gate after losing her colt. Later one of the other colts died a natural death for which I could blame no one, so I only got one colt out of the pasture. What claim have I on the pasture man?—E. D. S., Pomona.

A depositary of animals for hire is required to furnish a reasonably safe place for them, and to use ordinary care to see that they are not injured, therefore, I should say that if the pasture man above referred to, was not ordinarily careful to see that his premises were in a safe condition, he is liable for the loss of the colt that fell in the well. There being no lack of care on the pasture man's part, causing the loss of the mare and other colt, no recovery can be had for their loss.—E. L. P.

**Poison Out.**

Please give me information as to the law regarding the distribution of poison. Do I have to put out any signs when I place poison on my own property to destroy squirrels or other pests? If squirrels make their holes on property adjoining mine, may I go on it to poison them, or if not, how should I proceed to protect my own property?—X., Los Angeles.

I know of no law requiring a person to put out signs when placing poison on his property.

Of course, you cannot go upon your neighbor's land without his permission, as a matter of abstract law; but I presume your neighbor would have no objection if you did no damage.

It is hardly necessary to say that one must be careful about spreading poison, as the Code provides that: "Every person who willfully administers any poison to an animal, the property of another, or maliciously exposes any poisonous substance, with the intent that the same shall be taken or swallowed by any such animal, is punishable by imprisonment in the state prison not exceeding three years, or in the county jail not exceeding one year, and a fine not exceeding five hundred dollars."—E. L. P.

**HOW IT ALL CAME ABOUT.**

A very neat and attractive booklet has just been issued by the Petaluma Incubator Co., giving the history of the manufacture of the first incubator in California and the growth of the great industry in Petaluma. The booklet was issued primarily for distribution at the A-Y-P Exposition at Seattle, and 65,000 copies were printed for this purpose It has been so attractive, however, and so much admired that the company has decided to get out a second addition of 200,000 copies. We are not informed whether these are for free distribution but doubt not that if request were made by mail to the Petaluma Incubator Co., at Petaluma, that copies would be mailed without charge. The booklet is full of portraits and other illustrations which add to its attractiveness.

# Veterinary

Answers in this column by Dr. R. T. Whittiesey, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

**Barbed-wire Cut.**

Can you tell me how to treat a bad barbed wire cut on the forearm of mare? I have sewed up the cut and treated with creolin and carbolic acid. The wound is healing nicely but the flies are very bothersome. Would cowease sprayed on the wound or on burlap fastened loosely around it keep them off? Would it heal the wound?—Horseman, Sonoma.

There is nothing that can be sprayed on a wound that will keep off the flies for any length of time. Keep the wound as clean as possible with plenty of water, not by washing it with a dirty rag or sponge, but using the hose until it is washed clean. Then spray on the following twice daily: Zinc sulphate and lead acetate, two ounces of each to one gallon of water. This will soon form a covering over the wound.—R. T. W.

**Thrush.**

What is the cause of thrush in the frog of horse's hoof, and how is it best treated? Does working or driving moderately aggravate the trouble? —Subscriber, Claremont.

Thrush is caused by neglect. To cure, make a solution of sulphate of copper and water and pack the cleft in the frog with oakum or cotton soaked in the above solution. Renew once daily. Give the horse his regular work.—R. T. W.

**Corns.**

My horse has had corns for the past two years. The blacksmith cuts the corns out every time he trims the feet, and when he does so the corns bleed and I am unable to use the horse for about two weeks.—A. G., Downey.

The shoer is doing wrong in trimming the hoof as you describe. If the horse were shod with rubber pads and the bottom of the wall cut away so it would not touch the pad near the seat of the corn, he would get along very much better.—R. T. W.

**Lumpy Jaw.**

My Jersey cow has had a large swelling on one side of her neck ever since she had her calf in April. It has never broken or shown any signs of running but looks more like a wind puff. Two weeks ago another swelling started on the other side. Otherwise the cow is apparently in healthy condition.—B. F. F., Silsbee.

Your cow probably has lumpy jaw. Make a solution of one pound potassium iodide in one quart of water. Give a dose of one-half ounce of the solution night and morning. This quantity will be sufficient for two months treatment and will usually effect a cure.—R. T. W.

**DR. WHITTLESEY'S VETERINARY REMEDIES.**

These are not ordinary mixtures but are from well tried formulas, used in an extensive practice in Southern California for nearly a quarter of a century. Dr. Whittlesey's Sulphur Arsenical Salve for deep fistulous or ordinary chronic, indolent sores such as, "Poll Evil," "Fistulas," "Quitters," "Thrush," "Scratches," "Warts," "Collar sores" or "Sit-fasts." $1.00 per package postpaid. Printed directions. Dr. Whittlesey's Antiseptic Healing Powder. Forms a coating over raw surfaces, excludes air, flies and floating germs. Makes a cheap and convenient dressing for the many sores that occur to stock on the ranch. $1 full pound can postpaid.

DR. R. T. WHITTLESEY.
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STRONG OUT DOOR GROWN ROOTED cuttings. All kinds of plants. Send for 1, 2, 3c list. GEM NURSERY, Los Gatos, Cal.

**DIVIDEND NOTICES OF THE ASSOCIATED SAVINGS BANKS OF SAN FRANCISCO.**

THE GERMAN SAVINGS AND LOAN SOCIETY 526 California St., Mission Branch, 2572 Mission St., near 22nd. Richmond District Branch, 432 Clement St., between 5th and 6th Avenues, San Francisco. For the half year ending June 30, 1909, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Thursday, July 1, 1909. Dividends not called for are added to the deposit account and earn dividends from July 1, 1909.

GEORGE TOURNY, Secretary.

* * *

SAN FRANCISCO SAVINGS UNION, northwest corner California and Montgomery Sts. For the half year ending June 30, 1909, dividends have been declared at the rates per annum of four and one-eighth (4⅛) per cent on term deposits, and four (4) per cent on ordinary deposits, free of taxes, payable on and after Thursday, July 1, 1909. A dividend not drawn will be added to the deposit account, becomes a part thereof and earns dividend from July 1st. Money deposited on or before the 10th day of July will receive dividend from July 1st.

R. M. WELCH, Cashier.

* * *

THE SAVINGS AND LOAN SOCIETY, 101 Montgomery St., corner Sutter St., San Francisco. For the half year ending June 30, 1909, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Thursday, July 1, 1909. Dividends not drawn become part of deposit accounts, and earn dividends at the same rate, from July 1. Money deposited on or before July 10 will earn interest from July 1.

WM. A. BOSTON, Cashier.

Mr. F. G. Preston, a subscriber at Cape Town, Humboldt county, reports that this is the dryest season ever known in Humboldt county. There have been only two very light rains since the 28th of March. However, the heavy fogs have been of great benefit to many crops.

The state grain inspector of Washington estimates that the wheat crop of the year will be not less than thirty-seven million bushels and possibly as high as forty million bushels. This estimate is ten million in advance of last year's production.

Early shipments of grapes from Coachella Valley have proved them to be good sellers.

**FARM LANDS FOR SALE.**

YOU CAN MAKE MONEY ON THIS fine dairy and beet ranch. I own one of the finest dairy and beet ranches in the San Joaquin Valley located on the Santa Fe Railway, between Corcoran and Tulare. It has two water rights with plenty of water, is fenced and cross-fenced, and has good house, large cattle barn and out buildings. Two hundred acres are in alfalfa, part of which was recently seeded. Balance in grain. Eighty to one hundred cows are kept at present, and about $5000 is realized annually from the dairy products alone. With careful management the place will pay $10,000 yearly. Two beet sugar factories are within easy reach. Owner is no rancher and wants to sell or lease to responsible party with some capital. Price $36,000. Address owner, ULRICH KNOCH, 390 S. Los Angeles St., Los Angeles, Cal.

FOR SALE—PALOMITAS VINEYARD 194 acres; 106 planted to choice Emperor, Malaga and Muscat vines, 3 to 5 years old. Part or all. Half cash, balance on easy terms. MRS. M. E. SHERMAN, Fresno, Cal.

FOR SALE OF EXCHANGE FOR LOS Angeles or Orange County walnut land, 140 acre mountain apple, berry, vegetable and chicken ranch, near Santa Cruz. WILLIAM RICHARD, owner, 438 River St., Santa Cruz, Cal.

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THE R. KELLY MACHINERY CO., Mission Road and Macy Street, Los Angeles, Cal., carry a large stock of secondhand machinery, boilers, steam and distillate engines, steam and power pumps and jacks, air compressers, water and oil tanks, pulleys, belting, hangers, etc. 25 car loads pipe and fittings, all sizes. Lot of iron fence posts, fine for wire fence.

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FOR SALE—GASOLINE AIR RIG FOR testing wells, forty to fifty horse power. Mounted ready for use. Will sell quarter original value. BAILIE & BRANDT CO., 943 North Main St., Los Angeles, Cal.

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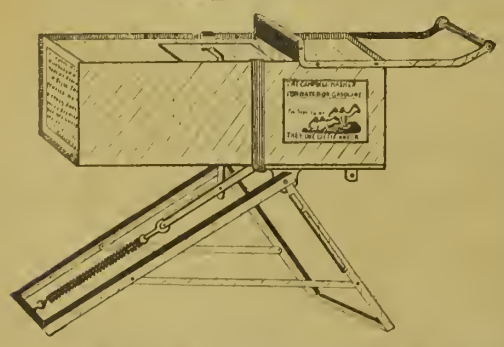

will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

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# Household Department

## ALWAYS KICKING.

Kicking in the morning,
Kicking all the day;
Kicking if he's busy,
Kicking at delay.
Thus the chronic kicker
Fills his life with woes,
Frowning, grumbling, wrangling,
Everywhere he goes.

Nothing ever suits him,
Always finding fault;
Every kind of pleasure
He is sure to halt.
Scowling at the children,
Growling at his wife;
Turning peace and comfort
Into constant strife.

Kicking if the weather
Happens to be dry;
Kicking when the rain is
Tumbling from the sky.
Kicking in the summer,—
Heat hath then no charm;
Kicking in the winter,—
Then he'd have it warm.

Kicking every meal time,
Glaring at the meat;
Often he is saying:
"Nothing fit to eat."
Kicking when he's reading,
Grumbling at the light;
Now and then denouncing
Everything in sight.

Kicking in the morning,
Kicking all the day;
Kicking in the evening,
Kicking should he pray.
Kicking while he's thinking,
Kicking when in bed;
Wonder if he'll keep on
Kicking when he s dead?

## WHEN HER TURN CAME.

WHEN Miss Felicia was just Felicia Adams, a small, brown-eyed girl in pinafores, with two thick black pigtails, her schoolmates said that Felicia always lost her "turn," and it had been so, beyond a doubt.

As a matter of fact, some turns came her way, with never a thought of passing by. These turns, so determined that she should not be slighted, were of the kind most school children have a pleasure in dodging. But Felicia could never dodge.

The unlearned geography lesson singled her out as expiator for all the class and winked its many colored eyes at her as she stumbled on to disaster and disgrace, while the other culprits went scot free; the schoolmaster never failed to discover her crudely-drawn caricature of him, though dozens escaped his notice; the stolen luncheon was ever from the basket of Felicia.

In a measure it sweetened her nature, if not her life, and she learned a patient acceptance of disagreeable things before the school days passed. It was well that preparation was made, for later life had many ills in store for Felicia.

As fortune's wheel turned it repeated the school days' turns with compound interest.

Her parents died early, regretted and missed; the bank that had the small savings of Felicia fell with a crash, while all around other banks stood firm as the proverbial rock.

Romance, too, had, given Miss Felicia a wide berth. The one pink-cheeked boy who had signified devotion had left to seek his fortune and never been heard from again. Miss Felicia had a basket cut out of a peach stone, 20 years before, as her sole memento of him.

Her schoolmates had rosy boys and girls for their own whom they sent to Miss Felicia's little tottering shop, which had not been built upon the sure foundation of cash sales. She had never learned to ask for money, even when long overdue. If they paid, well and good. If not, she could but look at them with her patient dove eyes.

But there came a time when the dove eyes of Miss Felicia began to fail and her hand lost its cunning. Then, indeed, dark days descended on her. The collector for the wholesale house where she purchased her supplies came again and again—surly the first time, surlier the second, surliest the third.

He met the dove eyes that pleaded for time—Miss Felicia spoke no word—with an adamantine ultimatum: "Pay or be sold out."

Miss Felicia went over her books that night making out her accounts with shaking hands and eyes that rebelled at the strain. She could not rest till the bills were made out, till she had tried her best in this last bout with fortune.

In the morning she wrote a little personal note of apology and appeal to inclose with every bill. Then she bribed a small boy with one of her few quarters to present them at the various houses to which they were addressed.

By the next day the answers began to come in. A few of the minor bills were paid; some of the large ones were promised in the future; some took no notice, and two of the largest debtors descended personally on Miss Felicia in a very whirlwind of indignation and outraged pride. The first of these, a former schoolgirl friend, berated her soundly and then dissolved in tears.

"You know, Felicia," she sobbed, "that all the—children had—scarlet fever—and—how h-hard it has been. Of course," she could not forbear the thrust, even with Miss Felicia bending pityingly over her, "you don't know how a mother feels, nor, a wife, but I should think even you wouldn't press at such a time."

Miss Felicia kissed her, comforted her and gave her tea from her great-grandmother's quaint cups. She never thought of saying, as she might have done, that the illness was over by a year and more, and that a new horse and buggy had since been purchased by the stricken family.

The other caller was more hurt than angry. After they had talked for a while, he went away with a couple of dollars' worth of goods from her slim stock.

When the collector, still at the surliest mark, arrived, she had little for him. "The sale will be advertised in tomorrow's papers," he said, and then, as if the words were wrung from him against his will: "Very sorry, ma'am."

The shutters were put up. Through the next two days Miss Felicia cowered in the little back room, shamed and fearing, trying to think of a way in which she could still support the burden which men call life.

A knocking at the front door sounded, a fumbling at the shutters, but she paid no heed. It was only when a rat-a-tat-tat- beat on the back door that she roused herself and opened it.

There, in a flood of sunshine, stood the boy who had gone away years before, the hero of her dreams. She know him instantly, though the years

in which he had wrestled with the hard earth for the deliverence of its prisoned treasures had tanned the pink cheeks, hardened and hollowed the eyes and sprinkled the sunny hair with telltale threads of gray.

There was not in all the 20 years an event of so much importance as the accidental finding of her name in the paper.

The color crept back into her cheeks as he told how he had longed for her all the long years. For the matter of that he had half forgotten her till he read her name, yet he was quite sincere in believing that her image had always been before him.

Moreover he made her believe it, in a joy and thankfulness such as she had never known. She rested her weary hands in the strong ones stretched out to her.

The years slipped away. Life was a beautiful and glorious thing. Miss Felicia's turn had come.—Spokesman Review.

## About the House

MANY a case of typhoid fever may be traced to boxes of decaying vegetables, or piles of mouldy carpet or sacks that have been forgotten and left in the cellar. Clean the cellar just as carefully and thoroughly as you can. Clean everything and white wash every corner, putting plenty of carbolic acid in the white wash. And keep the cellar well aired. If people would only realize that fresh air and sunlight are the foundation stones of health and happiness, perhaps they would not be so niggardly in their use.

How many house-wives do you know who keep the windows closed and the shades drawn most of the time, to keep the carpets from fading and the curtains from getting dusty? But isn't it just as much a part of good housekeeping to keep the air we breathe fresh and pure and clean as it is to keep the curtains immaculate, the colors in the carpet bright or the furniture free from dust?

Have you ever gone into a house where everything was in faultless order but where the air was heavy and close and stale, and in a very few minutes you would feel "stuffy, and headachy" and as soon as possible you would get out of doors and take long deep breaths of the fresh air.

Keeping the house and furniture clean is not all of good housekeeping—you must have clean air and sunlight as well. If you can not keep the floors free from dust with fresh air and sunlight in the house, choose the dusty floors—there is such a thing as "clean dirt."

An old woman who hobbled around on her crutches caring for her house was asked how she managed. "Oh, I just do the best I can, I try to keep things clean enough to be healthy, but they are dirty enough to be happy." She was a philosopher who had learned in the hard school of experience.

Many housewives like to have an extra dessert for the Sunday dinner. During the warm months, a fruit ice or ice cream is usually liked by all members of the family. If you are too far from town for the "ice man" to visit you, whenever you are in town on Saturday afternoon, buy a big cake of ice, wrap it up in old carpet or "gunny sacks" and take it out home with you. Make and freeze your cream in the evening, pack it carefully and leave it undisturbed until wanted for dinner Sunday. If the weather is very hot you may need to add a little more ice and repack it Sunday morning. With a little experience you will find it very little trouble to have a frozen dessert whenever it is wanted.

Another "hint" was given me by a young housekeeper. One day she did not want to cook meat, but wanted something to take its place for the main dish for their very simple dinner. She had a bowl of "drippings" from a beef roast. She peeled some potatoes put them in a baking pan and baked them in the oven, basting them frequently with the "drippings." They browned nicely and were appetizing and satisfying, with a delicious meat flavor.—Elbepe.

### MONOTONOUS.

How often do we hear women sigh for nobler fields of duty than what they deem the narrow round of household tasks—the washing of dishes, the preparing of meals, the making of beds, sweeping, dusting, scrubbing, scouring. Only the other day when the subject of conversation happened to be what a woman of wealth had accomplished in a work for young women and girls, one of the company remarked: "What a blessed thing it is to do good in that way. How I wish I had the opportunity!"

Another of the company quickly turned to her and asked, "Do you not do some good then? I have frequently heard those who have found a home in your house tell of the watchful care you exercise for their comfort and welfare—of the wholesome meals, daintily served, that built up their strength for the day's work, of the tender sympathy in trouble and illness—all this is no slight service for humanity, rendered, it is true, in a business way, to those who have no other home in this large city."

It is the spirit which animates the worker that makes the difference. We may take comfort and encouragement from the words of Phillips Brooks, "Never to fear to bring the sublimest motive and the most infinite endeavor to the smallest duty." Let us disabuse our minds at once of the mistaken notion that housework is demeaning or degrading. We are to look beyond the bare fact of the work, whatever it may be, to the results aimed at. Whatever elevates the home, elevates the tone of family life, and ultimately the whole fabric of civic and national life feels the influence.

But outside of pots and pans, inevitable as they are, there is much in the ordering of every household in seemly and beautiful ways; much that lifts up housework into an art, and relieves it from the humdrum and monotonous routine of many of the occupations of life. There is the care of draperies, linen, china and silver, which gratifies the aesthetic sense at the same time engaging the attention and energies. The danger perhaps lies in too much care in this direction while neglectng the more weighty matters—the preparation of wholesome food. Taking into consideration all these things, who will say that the labors of the housekeeper, the homemaker, are monotonous?—Exchange.

### OUR MOTTO FOR THE WEEK.

Every cloud has a silver lining—
That is the side where the sun is shining;
And the way to illumine this world of doubt,
Is to wear your cloud turned bright side out.—"Pastor."

**Polytechnic Business College**

**304 12th St., Oakland, Cal.**

*(Inc.) Capital Stock, $100,000.00*

**The Great Business Training School of the West**

- Over 1000 students attending this year.
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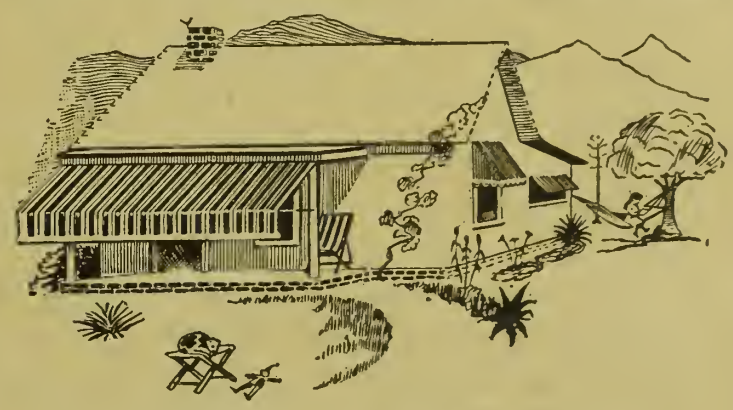
**CANVAS FOR THE RANCH**



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**The Light That Never Fails**

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes. Here are a few of The Angle Lamp Merits:

**NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.**

**GREAT ECONOMY—COST LESS TO BURN** than an ordinary lamp. As easy to operate as gas or electricity, and better than either. **ABSOLUTELY SAFE** under all conditions. Lighted and extinguished like gas. Burned **HIGH** or **LOW** like **GAS** without a trace of odor. And a **BRILLIANT**, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

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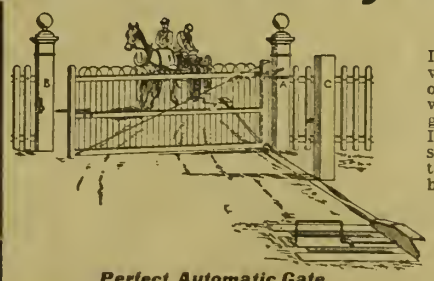
Established 1869 Incorporated 189

**20th Century Automatic Gate**

***Always in Order***



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In general use for motor as well as horse drawn vehicles. Opened or closed without assistance or stopping. The gate can be placed at any driveway entrance. The machinery is all above ground, and so simple it never gets out of order. It will last a lifetime, and usually pays for itself, in time saved, within a year. It adds to the beauty, value, convenience and safety of any home. Address

***A. J. Bloom***

***Petaluma, California***

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

Los Angeles, July 7, 1909.

### Butter.

A strong tone prevails in the butter market, even cooking being in strong demand. Quotations are, however, as last given.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

Creamery per roll ... .....55@57½
Cooking ... ... ..... .....23¾

### Cheese.

Southern California Anchor .....19
Northern fresh ..... ..... .....16
Anchor Young America .....20
Domestic Swiss .... .....20
Imported Swiss ..... .....30

### Eggs and Poultry.

Owing to short receipts over the Fourth the demand has far exceeded the supply and the price has advanced sharply and a firm condition now prevails.

Paying price f. o. b. L. A. are:
Eggs ..... ..... .....29@31
Case count buying price .... .....25

Dealers pay for live poultry f. o. b. L. A.:
Hens per pound 3½ up .....13@14
Stags and old roosters .....7
Fryers 2 to 2¾ lbs .....15@16
Broilers 1¼ to 2 lbs .....15
Broilers 2 lb .....19
Roasters 3 lbs and up ..... .....20
Turkeys ..... ..... .....20@23
Geese ..... ..... .....13
Ducks ..... ..... ... .....12@13
Squabs .... ..... .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds.....7½
Prime steers ..... .....4@4¼
Heifers ..... ..... .....3½@3¾
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.25@3.50
Wethers ..... ..... .....4.50@5.00

### Potatoes.

Wholesale prices are:
Sweets per box ..... .....3.50
New per box ..... .....50@60
New per cwt ..... .....1.35@1.50
Early Rose local ..... .....1.50
Burbank local ..... .....2.75

### Onions.

Wholesale quotations:
Coachellas crates ..... .....1.00
Coachellas sacks ..... .. .....1.25

### Vegetables.

Artichokes locals ..... .....75
Asparagus ..... .... .....8@9
Beets per sk ..... .....1.00
Beans string ..... .....3@4
Bell peppers ..... .....15
Cabbages per sack ..... .....60
Celery per doz .... .....1.10@1.35
Chili per lb ..... .....25
Chili dried ..... .....9@10
Cucumbers per box ..... .....25@35
Cauliflower per crate ..... .....1.25
Carrots per sk ..... .....1.00
Corn per sack ..... .....50@70
Egg plant ..... ..... .....8@10
Green onions per doz bunches ..15@20
Horseradish per lb ..... .....12
Summer squash per box .....15@25
Lettuce choice ..... .....50@75
Mushrooms per basket .....3.00
Oyster plant .... ..... .....50
Peas per lb ..... .....3@5
Parsley doz .... .....20@40
Parsnips ..... ..... .....15@20
Rhubarb Northern per box .....2.00
Rhubarb Crimson Winter .....85
Radishes per doz ..... .....15@20
Spinach per doz ..... .....15@20
Turnips sk ..... ..... ....75@1.00
Tomatoes crate ..... .....1.50@1.75

### Citrus Fruits.

Navels ..... ..... .....1.25@2.50
Valencias ..... .... ....1.25@2.35
Grapefruit ..... ..... ....2.00@3.00
Lemons ..... ..... .....1.00@2.50
Unpacked .... ..... .....1.00@1.35

### Fresh Fruits.

Wholesale prices on the market are:
Apricots per crate ..... .....40@60
New apples ..... ..... .....50
White Astrachan ..... .....2.25
Red Astrachan ..... .....1.25
Cherries black ..... .....75@85
Cherries per lb ..... .....5@7
Currants ..... ..... .....60
Figs ..... ..... .....1.00
Grapes 4 basket crate .....1.50
Gooseberries ..... ... ... .....10
Loganberries ..... ... ... .....3
Loquats per lb ..... .....3
Peaches box ..... ..... .....75@1.25
Pears box ..... ..... .....1.00@1.50
Raspberries ..... .... .....4@5
Strawberries ..... .....3@4
Watermelons per lb ..... ....2@2½

### CANTALOUPES.

Two cars of cants sold quickly yesterday morning and price is very firm. The market will absorb all that will be forwarded to it this season from present indications.

Cantaloupes specials ..... ...90@1.00
Cantaloupes ponies ..... .....2.25
Standards ..... ..... .....2.50

### Dried Fruits.

Wholesale prices are:
Apricots ..... ..... .....8@9
Evap apples fy per lb ..... .....10@11
Figs loose ... ..... ..... .....5
Peaches ..... ..... .....5@6
Pears ..... ... ..... .....9
Plums pitted ..... .....8@9
Nectarines ..... ..... .....7½@9
Prunes .... ... ... .....7@8

RAISINS—Muscatels, 2-crown, loose, 50-lb. boxes, lb., 3½c; do., 3-crown, 4c; do., 4-crown 5c; sultanas, bleached, lb., 9c; do., unbleached, 3½@4c; new seeded raisins, 16-oz. packages, 6c; do., 12-oz. packages, 5c.

### Beans Dried.

Wholesale prices are:
Pink No. 1 ..... .....3.75
Limas per ctl ..... .....4.50
Black eyes ..... ..... .....3.50
Lady Washington ..... .....5.75
Small White ..... .....6.50
Garvanzas ..... ..... .....4.50

### Nuts.

Almonds IXL per lb ..... .....15
Pecans polished ..... .....15@17
Peanuts California ..... .....5
Walnuts No. 1.....12@13
Walnuts No. 2 ..... .....9@10

### Honey.

Wholesale quotations:
Extracted water white .. .....7
Extracted Light Amber .....5½@6
Comb Water White .... .....15
Comb white ..... .....14
Beeswax ..... ..... .....25

### Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:
New Barley hay .....13.00
New alfalfa local .... ....12.00@13.00
New alfalfa Imperial .....10.50@11.00
Wheat hay ..... .....13.50
Tame oat ..... .....15.00

### Grains.

Wholesale selling price f. o. b., Los Angeles:
Wheat new per ctl .... .....2.35@2.40
Kaffir corn ..... ..... ....2.00
Corn Eastern bulk ..... .....1.95
Egyptain corn ..... .....1.85
White oats ..... ..... .....2.25
Seed Rye .. ..... .....2.00

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn ..... .... .....2.00
Shorts ..... .... .....1.95
Bran ..... .... .....1.70
Cocoanut cake ..... ..... ....1.35
Cocoanut meal ..... .....1.85
Cottonseed meal ... .....1.25
Oil cake meal ..... .....2.50
Feed meal ..... ... ... .....2.05
Cracked wheat ..... .....2.50
Rolled Barley ... .... ..... ..1.60

## San Francisco Markets

SAN FRANCISCO, July 6, 1909.

### Butter.

Butter stands at last week's quotations with firm market.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:
California extras per lb .....26
California firsts ..... .....25
Cal Young America fy .....14½@16
California seconds ..... .....24½

### Cheese.

California flats ..... ....12@13½
Cal Young America fy .....14½@16
Young American Oregon fy .....15

### Eggs and Poultry.

Eggs have advanced 1 point since last quotations with good buying demand.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:
Fresh ranch ..... .....21@26½
Hens per doz .... .....4.00@8.00
Roosters .... ..... ..4.00@10.00
Fryers per doz ..... .....5.00@6.50
Broilers ..... ... .....2.50@4.00
Geese per pair ..... .....1.50@2.00
Ducks young ... ..... ....5.00@8.00
Pigeons young .. .... ....1.00@2.00

### Live Stock.

San Francisco prices gross weight:
Steers ..... ..... .....3@4
Cows and heifers ..... .....2@3¼
Hogs ..... ... .....4@7¼
Calves per lb ..... .....3½@5
Milk lambs ..... .....4¾
Wethers No 1 ..... .....3¾@4
Ewes No 1 ..... .....3@3¼

### Potatoes.

Wholesale market quotations:
River white fy sacks .....1.25@1.40
Sweets per crate .... .....1.50@2.00
Oregons Burbanks .... .....1.50@1.75
New potatoes white .....1.00@1.50
Salinas ..... ..... .....1.90@2.00

### Vegetables.

Wholesale quotations:
Asparagus per box .....75@1.50
Bell peppers per lb .....10@12½
Brussels sprouts per lb .....3@5
Cabbage per box .....2.00@2.25
Cauliflower doz ..... .....75@1.00
Carrots per sk ..... .....65@75
Cucumbers per box .....25@1.00
Chili peppers per lb .....4@7
Corn per sk .....1.25@3.50
Egg plant per lb .....5@10
Green peas per sk .....1.00@1.75
Mushrooms per lb .....12½@25
Onions green per box ..... ....50@60
Rhubarb per box for bay .....50@1.00
Squash per box .....30@1.00
String beans ..... .....4@6
Tomatoes Cal .... .....40@50
Wax Beans ..... .....4@6

### Onions.

New red per sk ..... .....25@40
Yellow ..... .... .....75@85

### Citrus Fruits.

Navels ..... ..... .....1.75@3.00
Valencias ..... .....2.25@3.00
Grapefruit ..... ..... .....1.50@3.00
Lemons ..... ..... .....2.50@5.50
Limes ..... ..... .....5.50@6.00

### Fresh Fruits.

Apricots box ..... .....50@75
Apricots box ..... .... .....25@40
Apples new green ..... .....50@1.00
Blackberries chest ..... .....2.00@3.00
Crab apples ..... .....75@1.00
Cherries Black Tartarian .....50@75
Cherries loose black per lb .....3@7
Cherries Royal Anne .... .....40@50
Currants per chest ..... ....4.00@5.00
Figs blk box single layer .....25@40
Grape Sweetwater .... .....75@1.25
Grapes, seedless ..... .....1.00@1.50
Gooseberries per drawer .... ...40@50
Logans per chest ..... ....1.50@2.50
Malindas per chest .... ....3.00@4.00
Cherry plums per box .... .....25@35
Peaches per box ..... .....40@75
Plums boxes ..... ..... ....25@60
Plums Tragedy ..... .....36@60
Pears ..... ..... .....50@1.50
Longworth per chest ... ....4.00@7.00
Nutmeg melons ponies .....1.00@1.50
Nutmeg specials ..... .....30@40
Nutmeg standards .... .....1.75@2.00
Pineapples per doz .... .....3.00@6.00
Pears box .... ..... .....75@90
Raspberries per chest .. ....4.00@6.00
Watermelons per lb .... .....2½@3

### Dried Fruits.

Prunes 4-size basis .....2½
Santa Clara .....2¾
½c premium for larger sizes
Apricots per lb.....9½@10½
Peaches—Choice ...4; Fancy ...6@7½
Apples evap .... .....5@7½
Pears ..... ..... .....5@8½
Figs ..... .....2½@4
Nectarines ..... ..... .....5@6
Pitted Plums ..... .....7@8

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do, No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12, 3¾c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached. 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

Walnuts soft shell .... .....9½
Hard shell ..... .....6@8½
Ne Plus Ultra .....10½
Almonds Nonp ..... .....11½
Pecans ..... .....15@17
Chestnuts ..... ..... .....2@10
Peanuts ..... ..... ...5@6
Pine nuts ..... .....22½@25

### Beans Dried.

Limas ..... ..... .....4.00@4.50
Pink ..... ..... .....3.15@3.30
Small white ..... .....6.50@7.00
Large white .... .....5.50@5.70
Black eyes .... ..... .....3.35@3.50
Red kidneys ..... .....3.50@3.75
Garvanzas ..... .... .....3.00@4.00
Bayo ..... ..... .....5.25@5.40
Horse beans ..... .....2.00@2.10

### Hops.

Hops 1908 crop ..... .....6@10
Old crop ..... ..... .....2@6
1909 crop contracted for at -....12@14

### Honey.

White comb ..... .....15@16
Light Amber ..... .....9@10
Extracted W W ..... .....7@8
Extracted light amber .....6@7½
Beeswax per lb .....24@28

### Hay.

Scott & Magner say: There has been comparatively little hay changed hands in the country during the week, as all buyers are thoroughly adverse to making purchases under prevailing conditions, as the farmers' ideas in the country are much above the basis of the San Francisco market, and those who have purchased hay and are bringing it into San Francisco are netting quite a loss on most consignments. Until these conditions adjust themselves to a more satisfactory basis, no activity can be expected.

Occasionally an exceptionally fancy car of wheat hay has been sold at our top quotations, but the majority of all arrivals of wheat and wheat and oat hay, have moved slowly under a moderate demand.

The large consumers of hay here in the city are adverse to making purchases to fill their barns at the prevailing figures; therefore the general trade has been dull and the demand for hay decidedly moderate. Many of the hay teams in the city are laid off and idle on account of this condition, and nothing better can be expected until the market adjusts itself.

There is very little activity shown on alfalfa hay. Comparatively a small amount has been arriving, but there has been enough to supply the present current demand.

Not much straw has been received here during the week, and this article is fairly steady at our quotations.

Choice wheat hay .....17.50@18.50
No 1 wheat or wheat & oat 16.00@17.00
No 2 wheat or wheat & oat 14.00@15.50
Choice tame oat .....16.50@17.50
Other tame oat .....13.00@14.50
New crop wild ..... .....12.00@15.00
Stock hay ..... .....7.00@9.00
Alfalfa ..... ..... .....10.00@14.00
Straw ..... ..... .....60@75

### Grains.

Wheat No. 1 ..... .....2.07½@2.12½
Barley .... ..... ....1.42½@1.47½
Oats white ..... .....1.90@2.15
Oats gray ..... .....2.00@2.10
Rye new crop ..... .....2.10@2.15
Corn Egyptain .....1.60@1.85
Corn Cal sm round .....1.80@1.82½
Alfalfa seed, Cal .....16@18
Mustard yellow .....5¾@6
Mustard brown ..... .....3¾@4½
Millet ..... ..... .....2½@3
Broom corn seed per ton .....23.50

### Feed Stuff.

Bran per ton ..... .....29.00@30.00
Feed cornmeal per ton .. ..39.00@40.00
Cracked corn per ton .....40.00@41.00
Rolled barley per ton .....29.50@30.00
Rolled oats per ton .....39.00@40.00
Oil cake meal per ton .....38.50@40.00
Cocoanut cake per ton .....25.00@26.00
Middlings ..... .... ....33.00@35.00
Mixed feed per ton .....26.00@30.00
Shorts .... ..... .....31.00@32.00

## Citrus Market

LOS ANGELES, July 7, 1909.

The few seedlings, sweets and other general varieties yet to go are not offered a very bright outlook. Sales for the last few days have been very slow with indifferent prices. There are possibly of these varieties not over 150 cars yet in California.

Valencias are much better and the fruit is of excellent quality as a rule. No record breaking prices have been received but the general tone of the Valencia market is satisfactory.

Extreme prices received for lemons during the heated time preceding the Fourth are not being realized at this moment though the limited quantity of fruit and lack of foreigns in the market leaves a good market tone and good prices are being received in all sections.

### Shipments.

Total number of cars of citrus fruits shipped this season since November 1st aggregate 32,101 cars, of which 27,585 were oranges, 4516 lemons. To same date last season, 25,997 cars, of which 22,477 were oranegs and 3520 lemons.

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NEW YORK, July 2.—Twenty-nine cars oranges sold. Market firm on good stock. Weather clear and warm.

| NAVELS— | Average. |
|---|---|
| Swastika L V W Brown | 3.35 |
| Carnation M and Greene Co | 2.40 |
| Tropical Queen M and Greene Co | 2.10 |
| Knight Ely-Gilmore Fruit Co | 2.10 |
| Kaiser Hanson & Sears | 1.65 |
| Sultan Hanson & Sears | 1.40 |
| Blue Globe Riverside Ex Riverside | 2.80 |
| Red Globe Riverside Ex Riverside | 2.65 |
| California Orange Riverside Ex Riv | 1.70 |
| Sweetheart A F Ex Highgrove | 2.90 |
| Red Mountain Riverside Ex | 2.15 |
| Riverside Riverside Exchange | 1.90 |
| Independent Growers' Fruit Co | 2.65 |
| Stock Label Growers' Fruit Co | 2.00 |
| VALENCIAS— | |
| Elephant Orange Growers' Cash A | 3.10 |
| Cal Snnshine OG Cash Assn | 2.80 |
| Plain Ends Orange Growers' C A | 2.35 |
| Signet OG Cash Assn | 2.95 |
| Colonel OG Cash Assn | 2.60 |
| Stag ACG Exhange | 3.45 |
| Pointer ACG Exchange | 2.75 |
| Blue Globe Riverside Ex Riverside | 2.85 |
| Red Globe Riverside Ex Riverside | 2.35 |
| Iris DM Exchange | 3.40 |
| Violet DM Exchange | 2.85 |
| Aurora E Peycke Co | 2.45 |
| Euclid Euclid Fruit Co | 3.00 |
| Uplander Euclid Fruit Co | 2.40 |
| MEDITERRANEAN SWEETS— | |
| Red Globe Riverside Exchange | 1.75 |
| Lincoln AH Exchange | 1.40 |
| Slover Mountain Growers' Ft Co | 1.65 |
| Independent Growers' Fruit Co | 2.10 |
| Naralimo Sparr Fruit Co | 1.70 |
| Del Oro Sparr Fruit Co | 1.35 |
| SEEDLINGS— | |
| Carnation H and Greene Co | 1.75 |
| Tropical Queen H and Greene Co | 1.40 |
| Titus Ranch San Marino GPA | 1.75 |
| El Toreador San Marino GPA | 1.50 |

Titus Ranch San Marino GPA ....1.80
Iris DM Exchange .....1.95
Red Globe Riverside Ex Riverside 1.70
California Orange Riverside E Riv 1.35
La Mesa Riverside Ex Riverside 1.65
Fiesta Riverside Ex Riverside ....1.65
ST. MICHAELS—Carnation, 2.10; Victoria, 2.50; Blue Globe, 2.30; Red Globe, 1.95; Sweetheart, 2.50; Aurora, 2.40; Climax, 2.05; Sweetheart (½s), 1.10.
GRAPEFRUIT — (Halves): Mahala, 1.50; Elephant, 1.60; Signet (seedless), 2.25; Colonel, 1.80; Golden Sceptre, 2.05; West Highlands, 1.40; Naralimo (seedless), 2.15; Del Oro, 1.60.

PHILADELPHIA, July 2.—Five Valencias, two Mikes, one mixed, one seed, two cars sweets sold.

| VALENCIAS— | Average. |
|---|---|
| Serenade TCC Ex Sanger | 2.60 |
| Pointer ACG Ex Glendora | 3.00 |
| Aurora E Peycke Co | 2.85 |
| Ibex ST Ex Rivera | 2.40 |
| Stag ACG Ex Glendora | 3.45 |
| Hunter ACG Ex Glendora | 2.50 |
| Climax E Peycke Co | 2.45 |

SEEDLINGS—Gold Buckle, RH East Highland, $1.95; Belt, $1.60.
SWEETS—Royal, QC Ex Corona, 1.65; Sunset, 1.55; Pomona, SA Ex, 1.75; Golden Flower, Red GO Assn 1.80.
ST. MICHAELS—E Highland, E High CFA $2.70; Golden Flower Red GO Assn 2.25.

ST. LOUIS, July 2.—Hot. Market weak on navels, advancing on lemons. Ten cars sold.

| NAVELS— | Average. |
|---|---|
| Stork SA Exchange | 1.30 |
| Greyhound SA Exchange | 1.75 |
| VALENCIAS— | |
| Ibex ST Rivera | 2.70 |
| Tulip TCC Ex Porterville | 1.65 |
| Rivera ST Rivera | 2.20 |
| Dahlia Cal Citrus Union | 1.70 |
| LEMONS— | |
| Red Shield ACG Ex Auza | 5.60 |
| Commercial AH Ex Prenda | 5.30 |
| White Cross Limoneria Co | 5.20 |
| Green Crown ACG Ex Azusa | 4.95 |
| Bridal Veil Limoneria Co | 5.65 |

PITTSBURG, July 2.—Seven cars sold. Market very steady on oranges. Warm, favorable.

| VALENCIAS— | |
|---|---|
| Planet SS Exchange Orange | 2.90 |
| Red Mountain Riverside Ex River | 2.90 |
| Jasmine DM Exchange Duarte | 2.80 |
| Riverside Oranges Riverside E Riv | 2.60 |
| GRAPEFRUIT— | |
| Primrose DM Exchange Duarte | 1.90 |

BOSTON, July 2.—Thirteen cars sold. Weather favorable. Market unchanged.

| NAVELS— | Average. |
|---|---|
| Quail OK Exchange | 2.10 |
| Blue Print Riv Pachappa S | 1.75 |
| Standard National O Co | 2.25 |
| Hermosa Ely Gilmore F Co | 1.60 |
| Dove OK Exchange | 2.20 |
| Orchard National O Co | 2.95 |
| Rook Ely Gilmore F Co | 1.95 |

ST. MICHAELS—Squirrel AH Ex Prenda, $1.75; Palm Tree, $1.50; Gold Buckle, RE Ex E Highland, $2.20; Fiesta Riv Pachappa Sta, $2.00; Cal. Beauty, $1.90.
SEEDLINGS—Pine Cone SB Ex Highland $2.15; Arrowhead, $1.60; Blue Print $1.70; Stock Label $1.25.

| LEMONS— | |
|---|---|
| Excelsior Cal Citrus Union | 3.05 |
| Liberty Escondido FGA | 4.20 |
| Gold Buckle RH Ex E Highland | 4.40 |
| El Toro Cal Citrus Union | 3.65 |
| Foxaway Escondido FGA | 3.85 |

CINCINNATI, July 2.—Hot, muggy. Market weak on navels and seedlings; stady on lemons. Two navels, three seeds, three cars lemons sold.

| NAVELS— | Average. |
|---|---|
| Quail OK Exchange | 1.55 |
| Greyhound SA Exchange | 1.30 |
| LEMONS— | |
| Blue Jay OK Exchange | 4.80 |
| Silence Flagler F Co | 4.65 |
| Romea Flagler F Co | 3.60 |
| Commercial AH Ex Prenda | 4.30 |
| Crybaby, Flagler F Co | 4.45 |

SEEDLINGS—Voluntcer, $1.55.

NEW YORK, July 6.—Forty cars oranges and one car lemons sold. Market firm on good stock. Weather favorable.

| NAVELS— | Oranges. |
|---|---|
| Idylwylde Collins F Co | 2.45 |
| La Loma Queen Collins F Co | 1.90 |
| Independent Growers' Fruit Co | 2.50 |
| Stock Label Growers' Fruit Co | 1.75 |
| Warriors Stewart Fruit Co | 2.30 |
| Cerritos L V W Brown | 3.40 |
| Swastika L V W Brown | 3.00 |
| Tropical Queen M & Greene Co | 2.70 |
| Rook Ely-Gilmore Fruit Co | 2.10 |
| Kaiser Hanson & Sears | 2.10 |
| Sultan Hanson & Sears | 1.40 |
| Knight Ely-Gilmore Fruit Co | 2.09 |
| Blue Mtn P & McKevitt | 2.05 |
| VALENCIAS— | |
| Kaiser Hanson & Sears | 1.70 |
| Elephant OK Cash Assn | 3.00 |
| Sunshine OK Cash Assn | 2.55 |
| Plain Ends OG Cash Assn | 2.10 |
| Magnum Bonum J A Maddock | 2.30 |
| La Loma Queen | 2.45 |
| Cotton Tail | 2.25 |
| Lion Head I L Lyon Sons | 2.85 |
| Tiger Head I L Lyon Sons | 2.25 |
| Old Mision C C Chapman | 4.45 |
| Golden Eagle C C Chapman | 3.00 |
| Euclid Euclid Fruit Co | 2.90 |
| Uplander Euclid Fruit Co | 2.30 |
| Rialto Girl Growers' Fruit Co | 2.70 |
| Aurora E Peycke Co | 2.65 |
| Climax E Peycke Co | 2.45 |
| Triumph California Citrus Union | 2.80 |
| West Highland | 1.80 |
| LEMONS— | |
| Independent Growers' Fruit Co | 6.30 |
| Do choice Growers' Fruit Co | 5.35 |
| Do orchard run Growers Fruit Co | 5.45 |
| Stock Label | 5.35 |
| NAVELS— | Average. |
| Pine Cone | 2.70 |
| Red Mountain | 2.10 |
| Riverside Oranges | 1.60 |
| VALENCIAS— | |
| Vista Bonita | 3.45 |
| Lake Hemet | 2.60 |
| Mission Indian | 1.85 |
| Stork | 2.95 |
| Iris | 3.40 |
| Violet | 2.85 |
| SWEETS— | |
| Royal | 1.25 |
| Sunset | 1.20 |
| La Mesa | 1.60 |
| Sweetheart | 1.90 |
| Eagle | 1.55 |
| Yankee Doodle | 1.20 |
| Southern Beauties | 1.65 |
| Justrite | 1.25 |

BOSTON, July 6.—Weather favorable. Market easier.

| SEEDLINGS— | |
|---|---|
| Titus Ranch San Marino GPA | 1.75 |
| El Molino San Marino GPA | 1.90 |
| El Toreador San Marino GPA | 1.50 |
| El Narajal (Havanas) | 1.40 |
| SWEETS— | |
| Euclid Euclid Fruit Co | 1.95 |
| Uplander Euclid Fruit Co | 1.65 |
| Rialto Girl Growers' Fruit Co | 1.85 |
| Slover Mtn Growers' Fruit Co | 1.75 |
| Mayflower R J Richardson | 2.10 |
| Buena R J Richardson | 1.80 |
| ST. MICHAELS— | |
| Carnation M & Greene | 2.30 |
| Blue Mountain P & MvKevitt | 2.05 |
| Idylwylde | 2.05 |
| Old Mission | 2.35 |
| Golden Eagle | 2.40 |
| West Highland | 2.15 |
| GRAPEFRUIT—Halves: | |
| Elephant | 2.45 |
| Colonel | 1.25 |
| Cerrito | 1.75 |
| Kaiser | 1.60 |
| Pine Cone SB Highland | 2.40 |
| Quail OK Exchange | 1.95 |
| El Dorado Escondido FGA | 2.55 |
| Orchard National Orange Co | 2.95 |
| Euclid Euclid Fruit Co | 1.75 |
| Arrowhead SB Highland | 1.90 |
| Liberty Escondido FGA | 3.05 |
| Standard National Orange Co | 2.45 |
| Uplander Euclid Fruit Co | 1.60 |
| SEEDLINGS— | |
| Tiger SB Colton | 1.80 |
| Titus Ranch San Marino GPA | 1.60 |
| Selected NW Blanchard | 1.35 |
| VALENCIAS— | |
| Clown Sparr Fruit Co | 2.90 |
| Euclid Euclid Fruit Co | 2.80 |
| Uplander | 2.35 |
| SWEETS— | |
| Champion A C Denman Sons | 2.15 |
| Naralimo Sparr Fruit Co | 1.85 |
| LEMONS— | |
| Liberty Escondido FGA | 3.85 |
| Foxaway | 2.50 |
| Gold Buckle RH Ex E Highland | 3.85 |
| Belt | 3.10 |
| Naralimo Sparr Fruit Co | 3.75 |

### TO DESTROY ANTS.

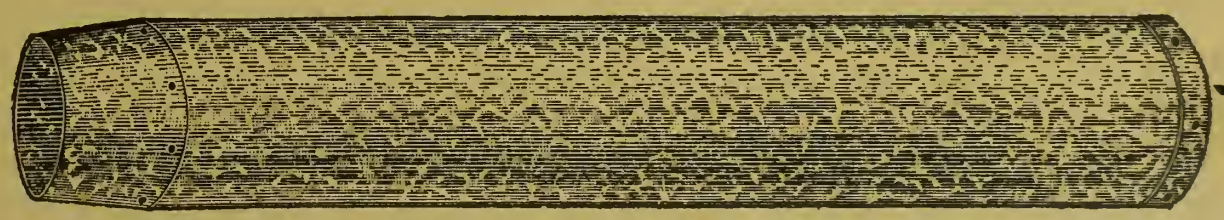
If ants are abundant about your premises it is probable that there are trees or bushes infested with plant lice near by. The ants visit these lice to obtain the sweet secretion which they give off. If this be the case, the first thing to do is to destroy the plant lice.

If there are large ant hills to be destroyed, the best and easiest method is to use carbon bisulphide, as follows:

Thrust a crowbar or sharp stick to a depth of eight or ten inches into the ant hill. Pour in one full ounce of carbon bisulphide and quickly close the opening with dirt. As soon as this is done, throw a wet blanket over the hill to keep down the carbon bisulphide fumes, so as to increase their efficiency in suffocating the ants. Do not remove the blanket for at least an hour. If the hill is large, it will be advisable to make two of these holes, ten inches or a foot apart.

If the ants are under the sidewalk, raise the flagging, if possible, and apply to the earth beneath, as in case of the ant hill, except that the flagging is laid back in place instead of using the wet blanket.

If ants are troublesome in the pantry, a free use of insect powder (also sold as "Buhach" "Pyrethrum" and "Persian Insect Powder") upon the shelves and in the run ways of the ants will usually be effectual in cleaning them out. As this powder is not poisonous to people it may be used in abundance.—C. P. Gillette, Colorado Agricultural College.



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SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties. We make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

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FORMERLY TALLERDAY MANUFACTURING COMPANY

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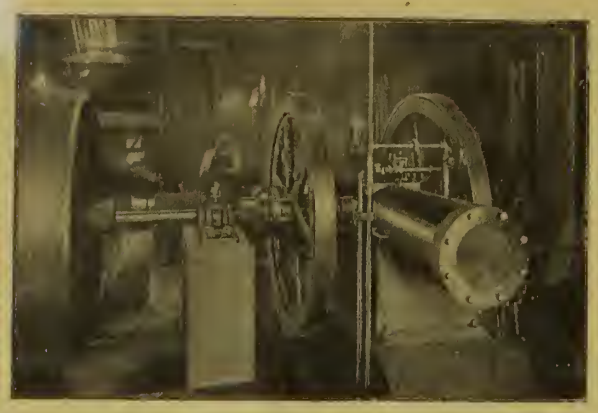


60 H. P. Western Pumping Plant

# A Frequent Mistake

made by engine buyers is to suppose that one engine is as good as another, the only difference being in the price. Certainly, many engines can be bought for less money than the WESTERN and this fact sometimes leads the prospective purchaser to the conclusion that to buy a low-priced engine will be an economy. This is not so. The one essential of an economical engine is that it shall give the maximum service for the minimum expenditure. If it is cheapened to a point where it fails to do this, **any** money put into it is an extravagance.

In the WESTERN every detail of design and construction has been to reduce the fuel and maintenance cost to the lowest possible figure. That we have succeeded is being constantly proven where our engines are installed alongside other makes, doing the same work, under the same conditions, developing **more** power, with **less** fuel.

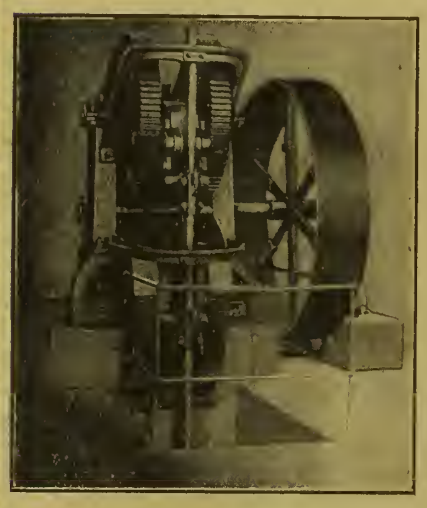
Write for Catalogue.

Have you heard of the Nix-Frost Crude Oil Gas Producer? It's "The Cheapest Power on Earth."

**Western Gas Engine Company**

**Northern Branch: San Francisco, Cal.** **Los Angeles, Cal.**

# The Smooth Running, Noiseless Pomona Deep Well Pump



It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.

**POMONA MANUFACTURING CO.**

**POMONA, CALIFORNIA**

THE

# Latest Deep Well Turbine Pump

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam. Deep well Plunger and Propeller Pumps.

**Byron Jackson Iron Works**

**Main Office and Works:**
**Carlton Station**
**West Berkeley, Cal.**

## A Handy Little Engine

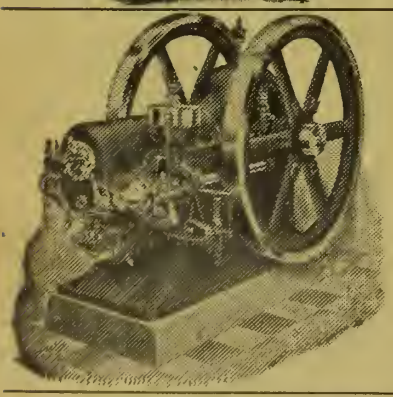
Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

## The Little Wonder

Write or call on

**Wm. Gregory**

602 No. Main St. Los Angeles, Cal.

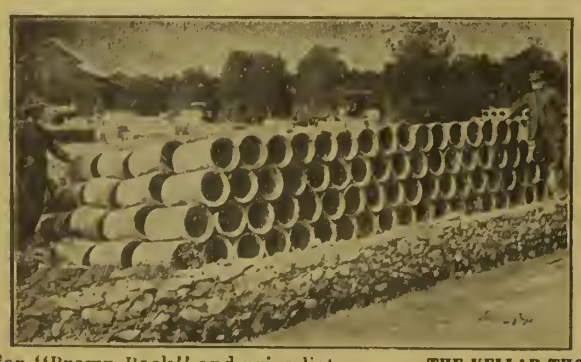


## *Another New Gas Engine*

Is amongst us and if you are in need of power you should investigate this one. You will find that it possesses the most desirable features of all the old timers and the price is right. Plenty of catalogues for distribution.

***Henshaw-Bulkley & Co.***

**262-264 So. Los Angeles St., Los Angeles**



From photograph showing amount of

## Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

## "K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

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Cassin & Ish, Goldfield, Nevada, U. S. A., write: "During the last great fire in Goldfield, a building covered by Malthoid was right in the heat of the fire. A wooden shed attached to it burned, but though the roofing blistered and partly melted, it did not burn. It was the very best kind of an advertisement for the material."

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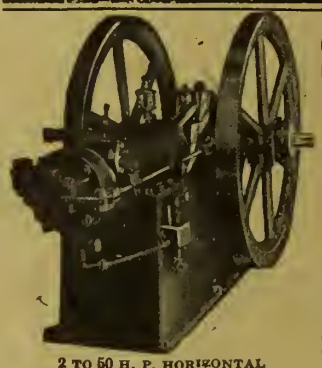
**E. G. Judah, General Representative, Security Bldg, Los Angeles**



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Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

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UNIVERSITY of ILLINOIS.


# California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — July 15, 1909 — San Francisco


# Some Roses of Redlands

ROSES and a profusion of flowers are characteristic of Redlands, San Bernardino County. The photographs on this page are only the merest hint of the beauty of that section lying at the base of old Grayback. In fact, the town lies in full view of the grandest mountains of Southern California. The range of which San Antonio ("Old Baldy") is the chief, bulwarks the skies upon the northwest, and east of these is the Cajon Pass, through which the Santa Fe railroad finds entrance. From these, easterly along the north, extends a rugged mountain wall about five thousand feet high until Mt. San Bernardino and Mt. San Gorgonio are reached, the former a little less, the latter a little more, than 12,000 feet high. On the far southeast rises the majestic San Jacinto. On the west the valleys lie open to the sea.

Millions of Gold of Ophir Roses

A Rose Tree

The valley varies in width from south to north, being eight or ten miles at the widest.

Redlands lies sheltered by these mountain ranges, beyond which are the deserts. It is ninety miles from the ocean. The climate therefore is very different from that of the coast towns, being much warmer and dryer, especially in the winter. Yet there is a delightful crispness and freshness in the air during the cooler months. The average rainfall is twenty inches, although during the dry years just past it has been only four or five. There are often uncomfortably hot days during the four hottest months of the year, although an occasional exceptional summer, such as that just past, glides away with scarcely a day of intemperate heat. The nights are cool almost without exception.

Today Redlands shows the greatest shipment of navels of any other one section in California.

# All Soils Alike to Wood Pipe

The heaviest adobe, the most corrosive alkali, the lightest sand; all alike where Wood Pipe is used.

**It Resists Them All**

Wood Saturated. Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High factor of Safety in Binding—Can't Leak.

Prices, specifications, hydraulic data and general information gladly furnished upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

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**Now then—Let us send you samples, a copy of our 32-page Roofing Booklet and name of our nearest agent.**

**PIONEER ROLL PAPER COMPANY**

DEPARTMENT 11-F LOS ANGELES, CALIFORNIA

# Vacation in the Mountains
## GO TO
# Lake Tahoe

**High Up in the Sierra Nevadas**

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## $23 Round Trip

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Limit for return, 21 days—with stopover privilage at San Francisco on return trip. Also at Merced, in order to visit Yosemite Valley.

Proportionate rates from Santa Barbara, Ventura, Oxnard, Long Beach, San Pedro, Santa Ana, Pasadena, Pomona, San Bernardino, Riverside and Redlands.

Ask for literature and details.

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**Arcade Sta., 5th St. and Central Ave.**

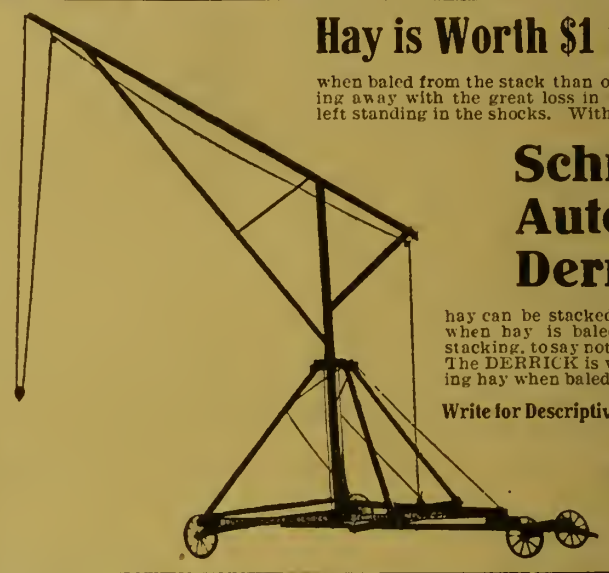
# Southern Pacific

# Westcott Automobile

A strictly high grade car with easy riding qualities unsurpassed and **no tire troubles**—the solid rubber side wire tire being used. Single or double rumble seat in rear. It's a **Beauty** and a **Winner.**

For particulars address **Automobile Department.**

**Newell Mathews Co.** Los Angeles and Market Sts. Los Angeles, California



# Hay is Worth $1 per Ton More

when baled from the stack than out of the shock, besides doing away with the great loss in weight which results when left standing in the shocks. With the

# Schmeiser Automatic Derrick

hay can be stacked for 15c per ton, therefore when hay is baled 85c per ton is gained by stacking, to say nothing of the saving in weight. The DERRICK is worth its cost alone for loading hay when baled.

**Write for Descriptive Circular and Prices Today**

**Schmeiser Mfg. Co.**

**Davis, California**

# A Railway on the Ranch

## Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

***Our booklet S. F. 60*** gives several suggestions for applying it to the dairy and Ranch.

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# An Admiral Without Cost

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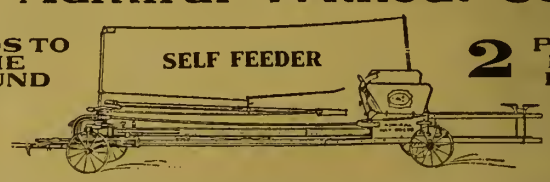

Ask for circular showing how the press will pay for itself the first season.

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Wagons, Buggies, Implements, Tools. Prices, terms and catalogs upon request.

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*Wine Tank*

# Tanks Tanks

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Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

**Geo. Windeler**

144-154 Berry St. San Francisco, Cal.

*Water Tank*

# California Cultivator

Vol. XXXIII—No. 3 Los Angeles, California, Thursday, July 15, 1909 Subscription $1 a Year


# The Handling of Intractable Soils

## A Series of Answers to Cultivator Questions as to how "Putty" or Hard Soils Can be Handled so as to Absorb and Hold Moisture and be Easier to Till

A SUBSCRIBER of the Cultivator recently called at the office perplexed as to what to do with his soil. So far as he could judge the chemical condition of the soil was favorable for a good crop; the trees did not indicate any material lack of fertility, and were in fairly healthy condition; but the crop produced was not such as he desired. One thing in particular that he noticed was that the soil failed to take in water. In other words, as nearly as could be determined, it was a "putty" soil which needed a material "lightener" and "loosener." Of course the manner of securing better mechanical condition can only be determined definitely by observation of the ground, knowledge of the surroundings, sub-soil, etc., but in order to get as much information as possible on this subject, the following statement of the case was sent to a number whom we know to be qualified to speak on the question:

**Statement Of The Case.**

Our inquirer says that in irrigating he runs the water twenty-four hours, at the end of which time, the flow is reduced somewhat and continued twenty-four hours longer, but even then the water does not sink into the soil as deeply as he would wish, and his trees fail to bear heavy crops. They are oranges. The soil is intractable and putty like. Of course we have told him that it appears to need humus and possibly an application of lime. He says that two and three years ago he grew heavy crops of peas. Both crops he insisted were very high and hard to plow under. Last year he did not grow a green manure crop. He has no money to waste, yet he feels that he must get the soil into better condition and is willing to apply gypsum or lime or any fertilizer recommended that looks as if it would give him reasonable results.

Can you give any hints on the handling of such a soil? In case lime is recommended, what is the cheapest and best form in which to get it? Is the sugar factory lime desirable? Should the air slacked or fresh lime be used? How many pounds per acre may be safely used on such heavy soil?

* * * *

One of these was sent to Prof. E. J. Wickson, who is at the head of the Agricultural Department of the State University. He writes us as follows:

**Prof. E. J. Wickson, State University.**

Your advice is as good as could be given. He can overcome the great obstinacy of the surface soil by the use of lime—whatever form he can get cheapest—common builders as it is; air-slacked which sometimes costs much less; refuse lime from the kilns if near enough to haul from; sugar lime; gypsum—all of them make an adobe soil more granular, easier to work, less disposed to surface evaporation, etc., and more ready to dispose of surplus water which may injure his trees. But humus is the principal thing. He probably let his peas get too high and his soil too dry and hard for covering under well. When that is done a cover crop is a hardship and probably a net loss also. Lime can be used at 1000 to 2000 pounds per acre, though people generally begin with 500 pounds. It should be applied just before the rains in the fall or winter, or any other convenient time before irrigation. It is generally broadcasted and plowed or disked in.

* * * *

Prof. Loughridge, also of the State University, says:

**Prof. R. H. Loughridge.**

The San Fernando man has a soil that is evidently in great need of something to loosen it up and permit the percolation of water as well as aeration. The remedy seems to be the application of 1500 pounds of lime per acre, plowed well in, and the growing of a green manure crop of large foliage and deep root system, which can be turned under to decay; if the growth is so great as to appear unmanageable, he can roll it down in the direction of plowing, or cut it up with a disk, and then turn it under by the plow. The decay of the roots as well as of the green stuff will loosen the soil, and the lime will hasten decay. An abundance of straw plowed in will also help to loosen the soil but its decay will be very slow and add nothing to the land. The lime from the sugar factories is excellent as it is already slacked. If fresh lime is used it should be airslacked before being put in the soil, as its strong alkalinity or caustic nature might injure the roots of vegetation. I do not think that a fertilizer is called for at present to improve the land.

* * * *

**Mrs. M. E. Sherman, Fresno.**

For the present I should open up this land with a deep furrow trench between each two rows of trees and put the water down to the bottom of it. Then on a small square of a hundred feet I should apply two hundred pounds of gypsum, and on another square I should put fifty pounds of lime, using sugar lime on one portion and fresh lime on the other. As a rule we do not like unslacked lime as it is drying in the summer. This would be enough to test the matter and not too expensive. Next fall I should plant a wide or narrow strip of alfalfa between at least every other two rows of trees, if not between every two, leaving room between the trees and alfalfa to run one furrow. As the alfalfa is watered, the water sinks down along its roots, going deeper and deeper all the time. Use the clippings of the alfalfa to spread on the rest of the land. If the alfalfa is cut often enough to keep it down, these clippings are short enough to be turned under and may be put in the space between the rows. If this is not regarded as leaving enough land to cultivate, planting the alfalfa between every other two rows and plowing the cut alfalfa in green on the alternate rows will bring the orchard into condition rapidly. Sow gypsum on the alfalfa at the rate of 200 pounds to the acre twice during the season, and it should be sown on the green alfalfa being turned under. This makes the alfalfa roots do the plowing and mellowing of the soil. After four or five years, the alfalfa may be plowed up and planted in the cross direction. If barnyard manure is spread on the alfalfa during the winter and a little bone meal with it, the alfalfa crop may be regularly harvested and used for hay, but it is not advisable unless the manure and bone meal are put on freely each season.

* * * *

The next opinion is from a fertilizer man whose entire business is the handling of commercial fertilizer. He recognizes the fact that proper mechanical condition is one of the first qualifications of soil, and until that is secured, nothing can be gained from the application of commercial fertilizers. It goes without saying that once this condition is secured, the application of commercial fertilizers will be of advantage. This writer says:

**Mr. H. E. Collins, Vice-Pres. Agricultural Chemical Works, Los Angeles.**

A sufficient amount of lime to improve the physical condition of this soil would in my opinion be sufficient to cause damage to citrus trees, as their tolerance for lime is very small.

I would suggest that the gentleman in question use plenty of barnyard manure, the more straw in it the better, or a ton to a ton and a half of straw per acre disked in.

The trouble with the soil in question is that there is no lateral distribution of the irrigation water, therefore the food for the roots is restricted and this naturally shows in the falling off of the crop production of the grove.

When the physical condition of the soil is improved to such an extent that the proper distribution of water takes place then fertilizer can be applied to advantage. At present I should say that he had better spend his money toward the end of soil improvement as no doubt there is inert plant food which is yet to be taken up provided that it can be put in such a condition that the roots can absorb it.

* * * *

If a sugar factory is near enough, we presume the sugar lime would be the cheapest form to secure. On this point, we have the following from Mr. Neff:

**Mr. J. B Neff, Anaheim.**

The analysis of refuse lime from beet sugar factories is given as follows, in available material:

Potash in one ton of lime, 1 pound.

Phosphoric acid in one ton, 41.6 pounds.

Nitrogen in one ton, 5.6 pounds.

If these elements were bought in the open market they would cost about $3.50 for the amount in one ton of lime. If the lime is needed on the land a further value would be added.

One thousand pounds of such refuse lime should be ample for any land and need not be applied oftener than once in three or four years.

The above shows that sugar lime contains much fertilizing material besides having a good mechanical effect on the soil. Cost of using will of course be regulated by distance from the factory and conveniences for loading. Lime dealers have offered airslacked lime at a very low price so that in any case the addition of lime is not very expensive when the limited amount required is taken into consideration.

* * * *

**A. W. Jones, Los Alamitos.**

While we believe that sugar factory lime would

(Continued on Page 60.)

**Fumigators' Water Measure Pitcher**

Graduated according to the new standard. Twelve divisions, each division representing 3 ounces. Hence—one mark Water, one ounce Cyanide, one ounce Acid.

Cyanide Scales
Acid Pumps
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***Sulphuric Acid***

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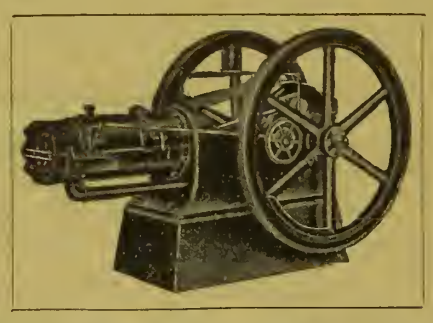
***Not too Light***
***But Just Right***

Send for Bulletin No. 12.



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**The Roessler & Hasslacher Chemical Co.**

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Works: Perth Amboy, N. J.

**CYANIDE** guaranteed 98-99% for generating HYDROCYANIC ACID GAS

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**Ship Your Fruit and Produce**

—TO **G. H. Hopkins & Son** You Will Receive Fair Treatment

247 Central Avenue, Los Angeles, Cal.


# With the Citrus Growers

### WHITE FLY STUDIES.

In Investigations into white fly conditions, E. W. Berger of the Florida Experiment Station determined as to effect of fungous diseases on the pest and has issued a bulletin for Florida fruit growers. From it we quote:

"Six fungous parasites are now known to infect the larvae of the whitefly and a seventh infects both larvae and adults. Methods for introducing whitefly fungi are considered at some length. The writer is of the opinion that by following the recommendations here made regarding parasitic fungi that their efficacy can be doubled and a clean fruit produced two years out of three.

Two fungus hyperparasites, Cladosporium sp. and coniothyrium sp., are reported. The former frequently over-runs and destroys red and yellow Aschersonias, while the latter occasionally over-runs pustules of the brown fungus, chiefly after the latter has become old or weakened from drought or cold weather.

The food plants preferred by the whitefly include two native species, prickly ash (Fagara clava-herculis) and the wild persimmon (Diosphyros virginiana), and several introduced species, namely, all varieties of citrus, chinaberry, umbrella tree, cape jessamine, privets, and Japanese persimmon. The author lists 18 additional species of food plants which the whitefly sometimes infests. Chinaberry and umbrella trees are considered as the food plants most to be feared by citrus-growing communi ties. Investigation has shown that whitefly larvae and pupae can continue to live on leaves which have dropped from trees during winter if protected against complete drying up, and that these insects may mature sufficiently late in the spring to infest the new leaves. Defoliation is not recommended as a means of checking the whitefly in a grove except when the defoliation has already been in a great measure accomplished by a freeze.

The author has found the citrus whitefly in Florida to consist of two distinct species and here presents a description of the second, a new species to which he has given the name Aleyrodes nubifera. The eggs of the new species are reticulated instead of smooth like the eggs of A. citri. Distinct differences also exist in the first and fourth larval stages and in the pupae. The adults of A. citri have immaculate wings while those of A. nubifera have a smoky colored area near the end of the wing easily visible in the living insect with the aid of a lens.

### GREATER CARE IN FRUIT DELIVERY.

The Upland Citrus Association which has a record for marketing some of the best fruit grown in Southern California, which has brought it exceptionally good returns in the past, proposes to use still greater care in the handling of this fruit in the future. Many growers have followed the rules which have been established, but others have presumed on the good nature of their fellow members by being somewhat careless in delivery, that is, sun and dust have been allowed access to the fruit in a way which has affected its appearance, if not its quality. The work of Mr. Powell and the observations of keen eyed fruit growers have proven conclusively that a little extra care means money. The circular quoted below shows that the Upland Association proposes to use still greater care. Other associations which may not be following the plan suggested in the circular will watch with interest the returns coming to this association which is using the greatest care in handling its frult.

A Basketful of Redlands' Best.

The following is practically the full text of the circular:

"The need of covering citrus fruit after picking when it stands in the orchard or on the wagon, and while in transit to the packing house, is generally acknowledged by orange growers, but has not been practiced in most cases by our members, though their attention has often been called to it. It is especially necessary to keep off the burning rays of the sun at this time of the year, but all the year 'round, day and night, covers are needed to keep off the dust, or the rains or the dew and fog.

At the last meeting of the board of directors of this Association, it was unanimously, resolved:

That our growers be required when having oranges picked, to see that the boxes containing fruit be stacked five high on the north or northeast side of the tree, with the top box covered, that loads on wagons be covered whether left standing or while being hauled to the packing house, and for all loads, delivered after June 20th, which come to the packing house without being covered, there shall be a penalty of a quarter of a cent a box to be charged to the account of the owners of the fruit.

Members will please take notice of the above rule and save themselves expense by allowing no oranges delivered from their groves without covers over the load."

# Deciduous Fruit Culture

By J. W. Mills

## FRUIT TREE MAKING.

THE success of an orchard, like that of a farm, after the site has been selected, must depend upon the quality of the material used to stock it. This is a primary principle, and, therefore, of no small importance. Apart from variety, which may be according to the wish of the owner, or the requirements of the market, there is the vigor of the stock to be considered; and vigor and health are what stand at the back of all else that can be expected from any living things. Too often orchards, or parts of orchards in poor places, have failed simply because the trees were not vigorous enough to meet the demands made upon them by the situation. Whereas, had they been a degree or two more vigorous, they would have been alive and profitable today. Youth is the critical time; if the rule is recognized and acted upon in connection with farm animals, why not with fruit trees?

### The Public Taste.

The making or marring of the orchards of the future lies in the nature of the young trees, which are turned out in tens of thousands annually from the nurseries. It is a fact that the larger the tree the less kindly it takes to transplanting. It is not to be supposed that a tree that has made good its foothold into the soil, and has adapted itself to the climatic conditions, will take so kindly to removal as one not in that condition. It has been proved that the yearling tree gives the best results. Further, in order to comply with the public demand, the growing stems of young trees are pinched in order to make them throw out second growth to form a large head. Though this head may be large in appearance, and seem "a lot for the money," it is not so in vigor and in quality. Shoots, which are forced late, cannot be equal to those that take full six months to mature, and shoots of this "unripe" character can never form the basis of a sound head to the fruit tree.

Again, the headed tree is already formed as far as the trunk is concerned. The trunk can neither be lengthened nor shortened, and must remain at the eighteen inches or two feet allotted it in the nursery. It is folly to plant an orchard of mixed varieties on one length of trunk. Strong varieties may be too powerful, and weak varieties too sickly to fruit well if both are on a two-foot trunk. The trunk must be allotted according to the inherent nature of the tree; a Jonathan apple, for instance, on a one-foot stem, and a William's Bon Chretien pear on a three-foot stem, would both, under similar treatment, give an equally profitable result. Any given variety of tree, also, if planted out of its natural climate, that is, to the north or to the south of conditions best suited to it, must have its trunk shortened in proportion; so the fruit-tree planter should aim at giving his transplanted trees as little check as possible, and he should also have it in his power to make the trunks of whatever length he deems necessary in his district.

### The Kind of Tree to Plant.

The kind of tree suited to these requirements is undoubtedly the yearling whip, that is the season's clear growth from the bud (which should be near the ground), not interfered with in any way during growth. The growing of this whip entails absolutely no work in heading and trimming, and so the cost of production is considerably reduced. Nature is allowed to produce the yearling tree in her own way, and no improvement on this can be imagined. There are other advantages which tell heavily in favor of both the nurseryman and the buyer. Besides being cheaper to rear, as well as stronger in constitution, these yearlings are, in the replanting season, very much easier to handle. They are compact in growth, and light in bulk, easy to pack, and cheap to carry.

There are, however, some difficulties to consider by the way. Many varieties will not throw clean whips in the nursery under the existing conditions of open planting for cultivation. They spurt laterally from a number of the buds. This is a sign of vigor to be welcomed in young trees. The apex of the shoot, growing upward as fast as possible, is still not able to absorb all the sap sent up from the roots, so the surplus must break out in other parts. Strong shoots at the top of a young fruit tree often behave similarly, while those in more crowded parts remain as single whips. There are two ways of treating these growths. In most varieties they can be cut, in the pruning season, cleanly away, and there are found at their base one or two developed buds ready for growth in spring. Or, if these base buds are not present, the three best branchlets, about the height at which the trunk is to be cut, can be left and pruned to throw shoots for the permanent branches. In this latter case, the shoots thrown from these branches will be vastly superior in quality to those thrown from the pruned second growth of headed trees.

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## HOW TO EXTERMINATE GOPHERS SQUIRRELS AND RABBITS.

These pests cause damage amounting in this state alone to more than a million dollars a year. One of them only can we hope to entirely exterminate, namely, the squirrel which we can kill either by the use of poisoned grain or carbon bisulphide. If we use the grain it must be in liberal quantities. If we fail, it is rarely the fault of the grain, but ours in using too small quantities at a time. Squirrels are very shy, and for every one you see, there are a dozen out of sight.

Place a large tablespoon of poisoned grain—two or three to a hole—in such places as the squirrels are most likely to see it. Next day fill up all the holes and give no more grain for a week, or until the consternation caused by so many deaths has subsided. If you do, the squirrels will begin to associate the increased death rate with the grain. After a week go through the field as before with the grain, and again cover up the holes. Should any of the holes be again opened up, use the carbon bisulphide. Put a tablespoon of it on a ball made of rags, and thrust it into a hole as far as you can. Close the hole quickly (first having seen that all connecting holes were closed). If they are not, the squirrels will escape by them. It is well to look close for these holes as some are not used for entrance, but merely for ventilation. These latter go straight down and are rather hard to see.

As squirrels are very gregarious, it is necessary not merely to kill your own, but your neighbors' as well, or your field will soon be full of them again. The best time to use the grain is during the fall and winter when there is plenty of green feed and no grain left in the fields.

### Gophers.

The only reliable means of exterminating gophers is by trapping them. The box trap is best, but I use all kinds, finding that some gophers refuse to be caught in boxes. Here indeed, variety is the spice of death. It is almost useless to try to poison gophers as they are very sagacious. Some people claim that they have rid orchards of this pest by poisoning, but it is the clean cultivation that causes them to vacate, as they do not like the one-sided diet of tree roots

The box trap is not properly made. It should be longer and have open ends. This extension is merely to make the inner end where the trap part is fastened, lock more securely. The traps should also be of two sizes, one for young gophers and one for old ones. The size of the hole will indicate which size of trap is needed.

It is of no use to try the bisulphide on the gophers as they bank up against the gas and protect themselves. Poison they will eat only occasionally when food is very scarce. Then prunes and carrots form the best bait. Do everything to kill them,


**RED SPIDER**

*One of the Worst Pests Known to Citrus Trees*

Is in abundance in Southern California at this time of the year. The Board of Horticulture recommends Sulphur to combat this pest

**Imperial** A Resublimed Flowers of Sulphur

Contains more Sulphurous Acid than any other Sulphur on the market, thus making it superior to all other brands. Write for samples. The price is right.

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**All About the Orange and Lemon**

Is told in our new book on Citrus Culture, embracing every phase of the subject from the seedling plant to the final disposition of the fruit in the Eastern market. The largest and best book on the subject ever printed—60,000 words, 100 illustrations. You will want a copy, which we will send you for the small sum of 25 cents. Remember we are the largest growers of orange and lemon trees in the world.

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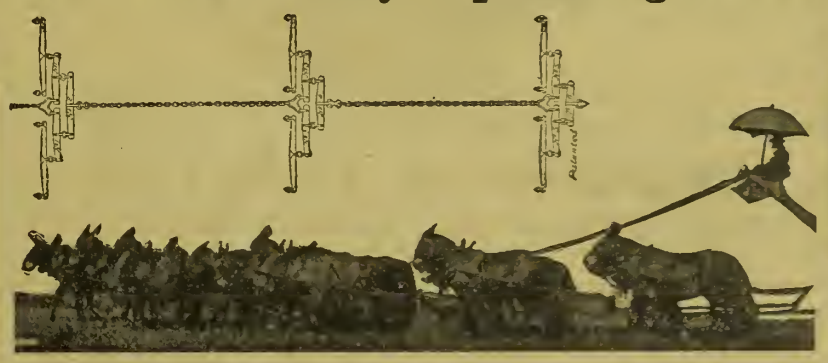

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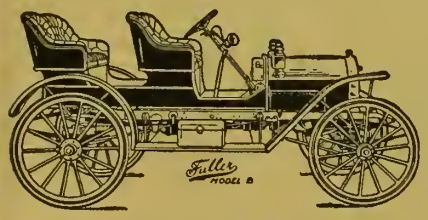

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TREES AND SEED
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but put your reliance on the trap (habeas corpus).

**Rabbits.**

Rabbits have until recently been the one pest that I have found it all but impossible to protect myself against. It was not until I conceived the idea of using a poisoned liquid on the leaves that I felt at all safe. Through the assistance of Prof. Wickson I have recently perfected a syrup poison that they will eat, that is most terrible in its effects, and at the same time does no harm to tender plants. I place a drop of this syrup with medicine dropper on one or two of the most appetizing looking leaves in a hill in about every fifth row—closer than that in spots where the rabbits enter—and repeat every five days until the plants are beyond danger.

**Formula For Poison Syrup.**

Dissolve one-eighth ounce strychnine crystals in strained juice of two ordinary lemons and shake until dissolved. Dissolve three-sixteenth ounce cyanide of potassium in three tablespoons of hot water. Combine two mixtures and add double their quantity of honey and one teaspoon of oil of rhodium. Be sure to get the genuine as imitations of this oil are useless for this purpose.

**Formula For Poisoned Grain.**

Same as above except that twice as much water and half as much honey is used. This is sufficient for about seven pounds of grain. Let it stand covered in an iron vessel for twenty-four hours and then dry.—J. C. Oestergard, Burbank.

## LOSS OF SOIL FERTILITY.

Of course there is loss of fertility in the soils. Never was a crop garnered without taking from the fields something that the soil gave up to make the stalk, the leaf and the grain.

Every load of hay takes from the farm some fertility. In each bushel of corn or wheat is a certain amount of the elements of fertility which is carted away to be sold. This is a continuing process.

But the men who have taken the soil into their great chemical laboratories have figured out just how much material there is in the soil that may turn up some time as plant food, and it is astonishing to discover that the supply is very large. Of some of the elements it may fairly be said the supply is inexhaustible. Of practically all there is enough.

But despite this, there is complaint—and it seems to be growing louder all the time—that the soils are being worn out and that the loss of fertility is such that soon the farms will be ready for abandonment. What's the matter?

It is all in the method of cultivation.

Farmers who do good farming, who cultivate well and take care of their fields the year round, are not "viewing with alarm" the prospective depletion of their soil.

Some things may be suggested to help. First, keep live stock on the farm and feed as much of the crop as possible. This will not be a complete solution of the problem, but it will help a great deal.

Incidental to the keeping of live stock on the farm, make good use of the manure. A hint is enough.

Provide drainage where drainage is needed, or where it may be needed very badly at some special time.

Use good seed at all times, not only as to variety but as to the selection of the seed itself and the care of the seed. Have the seed tested. Change seed sometimes, getting it from other fields or exchanging with distant neighbors.

Use different crops. Rotation is worth something. Its chief benefit, however, lies in the fact that it compels better treatment of the soil itself by requiring different kinds of cultivation.

**A Calexico Water Canal.**

Don't waste the water. Don't let the field lie fallow. Don't permit the seeds to suck the life blood out of the soil.

And it all resolves itself into the problem of scientific soil culture—the treatment of the soil so as to secure a good tilth and to make a proper seed bed for the seed and to prevent loss of moisture. Cultivation looks to keeping within the soil the proper amount of moisture and air so that the processes of decomposition may continue right along and thus the store-house of soil fertility will be of some use to the farmer.

Scientific soil culture means that the soil is to be kept up all the time and avoidance of loss of fertility.—Campbell's Scientific Farmer.

## BUDDING.

The first thing to do is to grow the stocks. Peaches are sometimes budded on plum stocks, but the general rule is to bud them on peach stocks. These are grown from peach pits. The best commercial supply of pits comes from the high lands of North Carolina and Tennessee, from so-called wild or native trees. The cheap supply comes from the canning factories. In growing only a few trees in a small garden, no great trouble need be spent on finding seed. Almost any seed which will grow can be budded and will answer fairly well. These seeds are planted in drills early in the spring and can be hoed and managed like any garden crop. They should have a good warm soil with enough cultivation and fertilizer to make a strong growth. Weak-growing stocks are worse than useless. The budding is done whenever the stocks are in good condition; that is, as the budders say, "whenever the bark will slip."

The buds to be used are cut just before using from trees of the proper variety. Strong, clean shoots in full growth are chosen, but they must have some good, sound, mature buds, at least toward the base of the shoots, and only these mature buds are immediately trimmed by removing the immature tips and by cutting off the blade of each leaf, leaving the petiole or leaf stalk. Everything being ready the stocks are prepared by pruning or rubbing off the leaves and small shoots near the base. The stock is then cut with a T-shaped incision. The lips of this incision are opened with the point of the budding knife. This is the most delicate and important operation in budding, and on its proper performance largely depends the success of the job. The bark must peel loose freely from the wood below. It must not break or tear.

The bud is then cut from the scion, and inserted in the opening provided on the stock. The bud is then tied in with raffia, soft twine or waxed cloth and the operation is complete, at least for the time. The graft thus formed has to be watched, and after ten days or two weeks it will be found that the bud has set—that is, grown fast. The diameter of the stock will be found to be increasing also and the ligature will be cutting into the stem. The binding is therefore cut. The bud should remain dormant until the following spring. At that time the stock should be cut off down to within about one inch of the inserted bud, and care must be exercised during the early summer that growth starts from the bud and not from the stock.

The people of California seldom realize the magnitude of the apple business of the Pajaro Valley. This paper stated in an editorial some time ago that it was greater than that of the entire state of Oregon. We now learn that it is greater than that of the two states of Oregon and Washington combined. California is surely up to date in the advertising of her resources, but in the matter of apple production we have not fully appreciated our greatness, neither our possibilities of development.


Gum Disease of Trees
Its Cause and Cure
By JOHN A. LEHMAN
Price 50 Cents
Baumgardt Pub. Co., 116 N. Broadway, Los Angeles, Cal.

# Live Stock and Dairy

By Mrs. Minna E. Sherman

Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

## STIFF SOILS.

A LITTLE while ago there appeared in the Cultivator an article on growing young vineyards, that incidentally spoke of handling stiff soils, and seemed to have raised considerable interest and several letters came asking for further opinions of the dairy editor on the subject. After that fine special edition on alfalfa of last week, this department may take the liberty of wandering from the set topic of live stock.

In Fresno county, the red colored heavy soils are usually called the "hard lands" in distinction from the lighter sandy soil and the white ash soils. There is also a red ash soil in some parts of the county. The hard red lands are often underlaid with hard pan and will hold the water all season. It is this soil that makes commercial brick, as well as the haviest meatiest raisins. It also grows plums, olives, late table grapes and barley to the greatest perfection, while the lighter soils are sought for malaga grapes, peaches, apricots, alfalfa and garden truck. The red hard soil must be handled at exactly the right degree of moisture or it will break up in great clods. After it is very wet if it is allowed to remain uncultivated, it checks open in great cracks during the summer and the little moisture that is in it escapes. When turned up the next season it comes up in great pieces divided by the cracks of last season and is, after all, only rough sun baked adobe bricks. When land like this has to be handled, if it cannot be plowed when it is exactly right, it should be run over with disks or with pony gang plows to roughen the surface. It will then retain the moisture and be ready to plow up in good shape when the time comes to get to it. Often to plow this tough land deeply at first, is merely to make it into great clods. The small two-horse revolving harrow has come into use in California and when the land is in good order it does good work, but it is also a gay deceiver in that it covers up the small and large clods with the loose earth. The first season's rain shows up the apparently well cultivated vineyard to be a mass of small clods that had been buried, not broken up.

### Humus.

Clods should not exist, neither should clod hoppers, and by the addition of humus to the soil and the addition of intelligence to the man with the hoe, both will pass away. Humus, aside from its value as a fertilizing agent, has in stiff soils the property of holding thirteen times its own weight of water, and holding it among the closely packing particles of the clay makes it flocculent. The word "flocculent" comes from the flock of wool and it is used to apply to spongy, light little bunches of soil that remain soft and moist under all states of the weather. Instead of having to wait until the soil is just right to plow, the condition comes about that the soil is right all the time when it is humus filled. The mechanical improvement will pay alone all expenses of adding humus to the soil.

### Cover Crop.

The usual way to produce humus is to grow it in the form of legumes. The term of cover crop is now used to designate the plants that are nitrogen producers, such as the legumes. The one error that comes up constantly in the way of handling these crops is that they are not plowed under soon enough. The time to turn them under is when they are in blossom. Then the stalks are not woody and will rot at once. The actual amount of nitrogen is also at its highest at this time and not in the later stages. When a woody growth is turned under, it dries out the soil and remains there, to be turned over again at the next plowing. Where the growth is very high the disks set on a slant may be run over it and then the plows will completely cover it. I have had the joy of having peas grow tall enough to be able to run the mower and take off half for hay, then, spread the rest on the land and plow it under. This, however, will not happen often enough to make an embarrassment of riches. Tangier peas are proving good growers and will make growth enough to go under in April. These peas have a brilliant red blossom, and one lady planted them for the bloom in a border along a drive way. The Tangier pea, the common garden pea, and the Canadian pea, with winter vetch and burr clover, make the winter growing cover crops, while for summer growth the southern field pea, cow pea and the soy bean are among the earliest handled.

### Mulch.

During the summer after the last cultivation the entire ground may be covered with stable manure to act as a mulch. I like this particularly in a young orchard as it makes the land in fine condition to turn under early in the fall. In orchard land we often meet in stubborn soils, a condition like this. The water refuses to penetrate deeply and the trees look yellow. This condition can best be met by running between the rows deep furrows—one or two according to the size of the trees—and then running a V to make the trench at least twenty inches deep, while thirty is even better. Fill these trenches with strawy manure, wood ashes, old clothes, weeds clipped from the road side and a little sprinkle of gypsum to hold the ammonia from escaping. Run the water in the trench and when dry enough cover with earth. These trenches can be opened as needed and in a couple of years the trash of leaves and other vegetable matter usualy wasted and burned may be used to make fertilizing material. Bury everything you cannot use; it will help the stiff soil. Another way to secure humus and nitrogen on this stiff land is to plant a wide strip of alfalfa between each row of trees, water this, use gypsum on it freely and give it a little commercial fertilizer from time to time. The roots of the alfalfa penetrate and carry the moisture down. After three or four


# The First Perfect Feeding Device for Cream Separators

We have frequently referred to the recklessly untrue statements and claims made by "desperate would-be-competitors" struggling to retain Cream Separator business that is going to the **United States Separator.**

We have repeatedly proved by the records of the United States Patent Office at Washington and by the records in the United States Circuit Courts, also by the records of International Expositions and National Expositions, that most of the claims of these would-be-competitors are false.

They are using desperate and false claims in their efforts to make it appear that they are first in everything desirable in Cream Separators.

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The "disc" Separator could not use this device and in its efforts to equal the device of the United States was compelled to resort to an inferior expedient—the "split wing." But the "split wing" does not enable them to equal the United States, as the records show.

The **United States Separator** was the first to distribute the incoming volume of whole milk back of the cream wall.

The **United States Separator** was the first to use nonaligned channels for the currents of the milk through the Separator bowl, on which it holds strong patents, and no others can use this construction and it was the **United States Separator** that beat the "disc" Separator at the greatest International contest of Cream Separators ever held.

The "disc" Separator has never been able to equal this test.

It was the **United States Separator** that beat the "disc" Separator in its own County Fair test and recovered more butter in the cream than the "disc" Separator recovered.

The **United States Separator** is manufactured under patents owned by IT.

The **United States Separator** is the originator of the best things in Separator Improvements.

The **United States Separator** is not an imitator in any particular.

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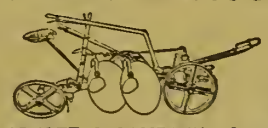

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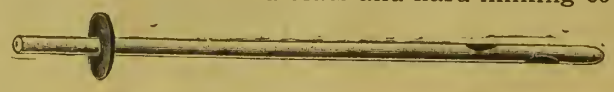
For sore and obstructed teats and hard milking cows



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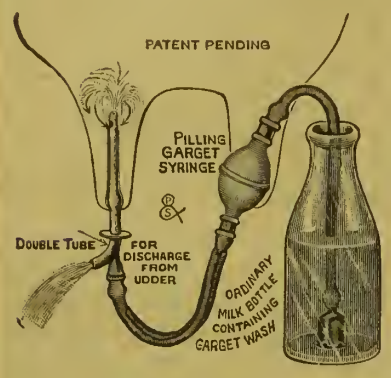


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Pilling's Garget Outfit, $4.00

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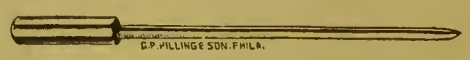


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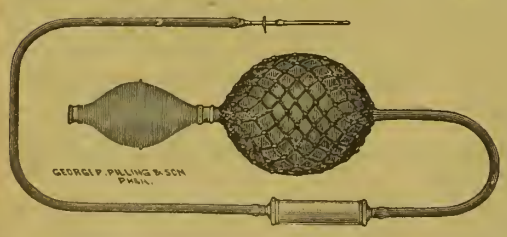
## Milk Fever Outfits

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Large Illustrated Catalogue Free

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## Creamery Machinery and Dairy Supplies

# O. J. WEBER COMPANY

225-7-9 East Sixth St., Los Angeles, California


years plow the alfalfa under and plant the cross rows with it. The alfalfa cut from this if quick results are wanted may be buried in cross trenches or it may be used for the horses and made to pay for gypsum and commercial fertilizers used. I am watching a neighbor's orange trees improve under this alfalfa treatment and it is marked, when one knows, how these trees looked two years ago.—M. E. Sherman.

### YOUNG PIG MANAGEMENT.

A hog is half made when past the weaning period without a stunt or kink in its growth. Every check or halt in prosperity through its first two months is more expensive than at any later period. Too much rich, feverish milk of the dam, causing thumps or other ailments, may leave harmful results, perhaps as much so as scant feeding or other neglect of the sow. More injury may be done to a pig's growth in two or three days than can be repaired in a month, even if he is made the subject of special care, which where many are raised is not the rule nor easily practicable. "Good luck" with pigs calls for attention, and that not occasional, but frequent and regular.

From the first week after farrowing until weaning time the sow will be little else than a milk machine, and to be a high-power machine in perfect operation she must have proper care. Nothing else is so well calculated to make pigs grow as a bountiful supply of wholesome sow's milk, and the pigs that have plenty of other feed with the milk of a well-slopped sow for eight weeks will ordinarily have much the start of those weaned at five or six weeks, no matter now much food and attention the earlier weaned pigs may have had.

At eight or nine weeks old most pigs are, or rather should be, fit to take away from the sow; some litters are individually older at seven weeks than others at ten, and better fitted for weaning. Sometimes it is necessary to wean when the pigs are five or six weeks old, and in other cases it may be advisable to wait until the pigs are ten weeks or even older. In the corn belt the period will generally average longer than in New England. Breeders who wean at early ages generally do so in order to more profitably raise two litters a year.

Provided with and taught to eat suitable feed some weeks beforehand pigs are not noticeably checked in their growth by weaning, but those that have been dependent mainly upon the mother's milk, when abruptly taken away from it, frequently seem to have their growth partially suspended for weeks. Many breeders successfully let the sow wean her pigs, as she will in time, and the change is so gradual that no pause in growth indicates when the milk diet ceased. A modified application of this, in which the pigs are separated from the sow at an age suiting their feeding and the convenience of the breeder, will not infrequently be found advisable, but by no means should the pigs be allowed to remain with a sow until she is virtually devoured by them as is sometimes done.

It is not a good plan to take all the pigs from the sow, unless one or two of them can be turned with her some hours after, to draw the milk she will have at that time, and again, say after a lapse of 24 hours. The preferred way is to leave about two of the smallest with her for several days, and after that leave only one for two or three days more, by which time the flow of milk will have been so gradually diminished that no injury to the sow will result by keeping them entirely away from her. This extra supply of milk helps also to push the smaller pigs along in growth and put them more nearly on an equality in size with their thriftier mates.—From Coburn's "Swine in America."

### A FIGHT ON CONDENSED MILK.

A correspondent from Oregon to the Creamery Journal, Mr. A. E. Guyton gives an account in that paper of a trade war that is on between eastern condensed milk interests and those of Oregon and Washington which we reproduce below. While we do not know the facts sufficiently to vouch for all that is given, we do know that there is not the best of feeling among the large condensing interests of the East toward the growing industry in Oregon and Washington. The article is as follows:

Manufacturers of unsweetened condensed milk on the Pacific coast have become involved in an industrial war. The battle is on and it promises to be a bitter contest. The standpoint of the coast condensaries in this fight against the Borden trust of the East is interesting as it will likely prove fatal to at least some of the smaller individual condensaries of the coast country.

According to the statement of some coast owners of plants the trouble started last winter when the makers of the Carnation brand, operating six condensaries in Washington and Oregon, sent a surplus of 20 carloads of cream to the New York market. It seems that the Borden people regarded this as an encroachment upon their territory, or at any rate answered this action by coming into the coast country with their product offered at a low figure. The cutting of prices has forced some of the coast condensaries to sell at a figure lower than the cost of production and of course a continuation of the price war will be disastrous. Many of the western condensaries are individual affairs located at different points and are not large enough to stand the loss for any great length of time. One of the plants affected is the Coos Bay condensary located at North Bend on Coos Bay and making the Sunrise brand. Manager Stewart, who is in charge of the concern, and who with his father, G. H. Stewart, was connected with the first manufacture of condensed milk on the coast, states that his plant can live through the fight. It is located where it has the advantage of cheap water transportation for the output and secures the milk with the use of its own gasoline boat. The boat pays its own way with general freight and passenger work so the milk is practically without cost. The plant can manufacture as low as 75 cases of milk a day and do it as cheaply per case as can a factory turning out 1,000 cases a day. However many of the Oregon and Washington condensaries are not as fortunately located and must consequently suffer if compelled to sell at a low price.

The industry of manufacturing unsweetened condensed milk on the coast has grown wonderfully. The first was made at Highland, Ill. The

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Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.

first factory on the coast was established by G. H. Stewart, at Buena Park, Cal., and the "Lilly" brand was made. The company now owns a plant also at Tempe, Arizona. Other factories have sprung up and there are now probably 20 plants in operation in Washington, Oregon and California. Some were started by salesmen for machinery and were established under unfavorable circumstances and in bad localities and have not been successful. Others which have heretofore done a good business are now facing the fight of the eastern trust which will cause them to suffer. There has been some talk of forming a combine of the plants on the coast in order to better fight the eastern concern but it is not likely that this will be done as the stronger of the factories do not feel like shouldering the burden of the weaker institutions. While the creameries of the coast are enjoying prosperity the condensaries are starting into a fight for their existence.

Libby, McNeil & Libby, the Chicago packers, are opening a large condensary near Eureka, Cal., and it is believed that the big eastern concerns are establishing themselves on the Pacific coast with a view of securing large trade in the future with the Orient and more particularly China. With this future market in sight the fight of the various local coast condensaries for life becomes an important one from their standpoint.—Pacific Dairy Review.

## TUBERCULOSIS IN HOGS.

Reports gathered from the various meat-packing centers of this country show tuberculosis of hogs to be on the increase and causing heavier loss to raiser and packer alike than any other disease.

Statistics show that a year ago there were over 56,000,000 hogs in this country and their value at that time was over $339,000,000. Federal inspection at the abattoirs of the country show 2 per cent of the hogs slaughtered to be affected with tuberculosis. Reports from Europe show a far more widespread infection that runs as high as 5.5 to 7.5 per cent.

The small amount of money required to start in the hog raising business and the quick returns on the amount invested make it an attractive field for operations. Hogs will make greater gains on less feed than almost any other live stock and at the same time utilize profitably waste food products of every variety if properly prepared. As tuberculosis of hogs is chiefly contracted through feeding, the significance of the latter feature is obvious.

Hogs from Arkansas, Oklahoma, and Texas are remarkably free from tuberculosis, due to the methods of caring for them, or rather the lack of care. They are not restricted to feed lots, where disease is commonly found, but roam over large areas to shift for themselves. No prolonged feeding is practiced in narrow limits, but from birth to maturity they are pastured on alfalfa, oats, corn, rape, and peanuts. Hogs raised in the forest regions of Hungary are likewise rarely affected with tuberculosis. In striking contrast are the hogs slaughtered at three cities in one of the leading dairy states where there are a large number of co-operative creameries and the raw skimmed milk is fed. Samples from two of these creameries were injected into guinea pigs and in one instance virulent tubercle bacilli were recovered .

Buyers for packing houses are learning from bitter experience to avoid sections of certain states, and two firms will not buy hogs from one state known to be badly infected. In fact, many of the smaller packers in the Central West buy subject to post-mortem inspection as a measure of self-protection.

An investigation carried on by the Bureau of Animal Industry in a certain section of the Middle West consisted of tagging hogs hauled to market in wagons. Of 3,420 animals tagged it was learned that all of the affected stock came from less than 6 per cent of the farms.

It is known beyond doubt that the majority of tuberculous hogs are produced by the following causes:

1. Feeding raw milk and slime from creameries.
2. Feeding hand-separated milk from tuberculous cows.
3. Feeding behind tuberculous cattle.
4. Feeding tuberculous carcasses.
5. Feeding slaughterhouse offal.

The danger in feeding hogs behind tuberculous cattle lies in the fact that such cattle discharge enormous numbers of tuberculosis germs in their feces.

Sooner or later the packer will buy subject to post-mortem examination, as some are now doing with certain classes of female cattle. Then the hog raiser who persists in fattening with tuberculous material will be made to feel the cost of his indifference or lack of knowledge. Today the buyer makes his purchases with the knowledge that a proportion of his animals will be condemned and the price fixed accordingly, with the result that the careful breeder suffers with the careless one. This is not equitable. But when the packer buys subject to post-mortem results the painstaking and intelligent raiser will receive more than he does now and the ignorant or indifferent breeder will get less, which is more nearly a fair deal for all concerned.

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The Arizona Wool Growers Association held its annual meeting at Flagstaff July 7th and elected N. W. Perkins of Flagstaff, President, and L. D. Yaeger of Flagstaff, Secretary and Treasurer.

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Stanislaus county produced four million pounds of butter last year, which makes it the second county of the state in butter production.

## ALFALFA PASTURE.

Alfalfa should never be pastured during the first or second season of its growth. Even an old field of alfalfa should be grazed rather sparingly if a uniform stand is to be maintained. The last crop of alfalfa is frequently pastured off. Care should be taken not to pasture too closely. The evil effects of the trampling of the stock while grazing can be overcome by disking to loosen up the compacted ground.

All kinds of live stock may be pastured upon alfalfa. Horses and sheep are more destructive to the stand of alfalfa than are cattle, as they graze more closely. Hogs are apt to injure the stand by rooting unless their noses are ringed. The utilization of alfalfa for hog pasture is in the aggregate probably the most extensive, as nearly every farmer throughout the alfalfa regions makes a practice of this chiefly because it proves to be a very profitable method of utilizing the crop. An average field of alfalfa will support continuously during the growing season about ten large hogs to the acre and enable them to make good gains, especially if a small quantity of grain is fed in addition. The usual custom is to allow one pound of grain a day for every hundred pounds live weight of the hogs.

The principal drawback to the pasturing of cattle and sheep on alfalfa is their tendency to bloat. This danger can, however, be reduced to a minimum by proper precautions in not allowing the cattle to go on to the pasture with empty stomachs, especially when the alfalfa is wet.

When the animals become bloated several remedies are usually at hand for the malady. A large bit an inch in diameter may be tied in the mouth, a piece of rubber tubing may be passed through the mouth to the first stomach, or as a last resort the animal may be tapped to allow the escape of the gas. For this purpose a trochar is best, but in the absence of this instrument a small-bladed knife may be used to make the incision about 6 inches in front of and slightly below the left hip bone. A straw or quill may be used to permit the escape of the gas.

---

A request has been made of the regents of the state university to establish a model dairy at the state farm at Davis.

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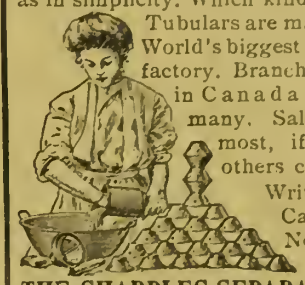

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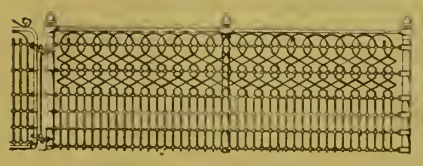
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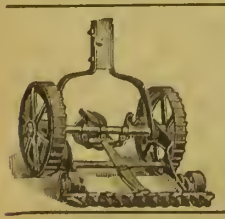
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# Small Fruits and Vegetables

## PREPARATION OF LAND FOR CELERY.

IN the preparation of the land, the kind of soil and its fertility, the method of cultivation and irrigation to be followed, and the demands of the celery plant upon the soil, are some of the important points that must be considered. According to the experience of eastern celery growers a black mucky soil is considered one of the best, admitting at the same time that "a deep, rich loam will produce the best of celery." Celery is a crop that demands a rich nitrogenous soil as well as a uniform amount of moisture. This being the case, if our soils are not rich enough to produce a good celery plant they must be fertilized. As a rule very few soils are ever rich enough for celery. One of the best all around fertilizers is well rotted manure. Owing to the fact that the nitrogen in the manure is not available to the plant immediately after being applied to the land, it is necessary to apply the manure some time before the plants are transplanted. For best results the ground ought to be manured during the winter or early spring. Always manure early enough to give the manure time to become well incorporated in the soil. As soon as the manure is spread on the land it ought to be plowed under and irrigated and be kept moist all the time. It is also advisable to put a thin layer of well rotted manure or guano in the bottom of the furrow a week or two before transplanting the celery plants. The fertilizer in the furrow should be covered over deep enough so that the roots of the newly set out plants do not come in contact with it at first. After covering it should be irrigated.

Some growers prefer simply manuring the bottom of the furrows. In such cases a larger amount should be added than when the whole surface of the ground is manured and it should be put in two or three months before the plants are transplanted. The manure in the furrow must be covered over with about two or three inches of soil and kept moist. In addition to this it is advisable to use sodium nitrate along the row after the plants have started to growing.

The distance at which to make the rows will depend to some extent upon the fertility of the soil and the variety of celery to be grown. If the manuring of the furrows is the method to be followed, the furrows ought to be made about six to eight inches below the level of the surface. In plowing out these furrows it can be done in the same way that sweet potato ridges are made, leaving a deep center in the middle with a high border on each side. The plants may be transplanted about five or six inches in the row.—Fabian Garcia, New Mexico, Col. of Agr.

## WHY ARE STRAWBERRIES STRAWBERRIES.

Why strawberries are called strawberries is discussed in an Eastern exchange as follows:

If we will go back to the start, I doubt that strawberries ever had much runners or mulch, but I have seen the berries perched on the ends of straw-like stems from fourteen to sixteen inches long and the leaves also the same. When strawberries grew wild they were usually in tall wild grass in some low, rich, but sandy soil—what we call river bottom land in the middle states. The thick grass caused them to grow slim just the same as thick timber makes pines or oaks grow slim and tall. Out by themselves oaks will grow scarcely 40 feet high, but I used to know of them in Iowa between 1860 and 1870 that would square 10 inches and almost straight for 60 feet with scarcely a knot. These long stems of the strawberry were an advantage. It caused the plants to collect and store oxygen for a long time and in larger amount. Oxygen is the origin of acid and sugar—that is fruit sugar. The longer these stems were the better the berries tasted. It could be readily perceived by anyone. Sometimes there were strawberries growing on open ground and they had very short stems. Strawberries are not as sweet or large amongst tame grass as wild, because the tame grass robs them of oxygen more than the wild grass. The tame grass uses more oxygen because it develops more seed than wild grass.

## SELECTION OF LIMA BEANS.

From an address by M. E. Sherwin made some months ago before a farmers institute held at Oxnard, we quote the following on Seed Selection for Lima Beans:

The subject of lima beans is one of the greatest interest to the farmers of this county. So it is not necessary to narrate certain details as to planting, etc., but state a few of the facts concerning the selection of the seed.

It has been proven with various crops that by careful selection of seed the average yield may be gradually increased. If this is the case with other crops why not also the case with lima beans?

What farmers of Ventura county want is a lima bean seed that will mature earlier, that will grow in an alkali soil and that will bring a larger yield per acre. It is possible to get any one of these requirements but the problem before us now is to get a seed with all these properties.

During last year's crop ten thousand vines were set apart for experimentation along this line although seven thousand were not used. The results with the other three thousand were quite gratifying. The beans from each vine were put separate and weighed. This is simply to serve as an example to show how agriculturists get at these difficult problems and the time and energy spent on a single proposition like this. But from results from this year's experimentation it has been learned that it is possible to produce a bean seed which has the above named characteristics and it is but a matter of time before such seed will be in use in this county, thus insuring earlier maturity and a slight increase in yield per acre.

---

The reciprocal demurrage act is proving to work two ways in this, that the farmers are compelled to have their products, especially hay, removed from the car in the specified time, which is often the cause of material loss.

---

Only one combined harvester and thresher remains in the Exeter section, so much of the land being taken for fruit production.

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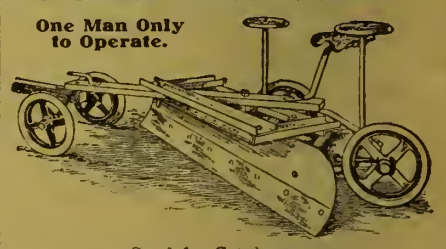
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# The Ornamental Garden

## WATERING THE LAWN AND THE GARDEN.

IN a country of rainless summers, which in its natural condition is a desert—as is the case with California,—the question of applying water to plant life that it may grow luxuriantly, is one that is but little understood. To have a bountiful supply at all times on tap, a good hose and nozzles and turn on the flow for a time according to the inclination or the memory of the irrigator is one method of supplying moisture to vegetation, the one, too, that is most generally practiced, a method that requires less thought and perhaps less labor—yet the least scientific and in most cases the most unsatisfactory to the party who pays the water and fertilizer bill. Because of this carelessness or incompetency, and soon, in political parlance, strained relations will exist between them to the detriment of the interests of both parties in the controversy—sometimes because of the ignorance of both parties—but most generally on the part of the owner of the place. As to how the difficulties should be overcome: Five gallons of water applied to a dry spot on a terrace in one minute would do no good whatever to grass; the same amount dripping from a hose during an hour would remedy the defect, and at this point we offer a suggestion to the gardener: If such conditions are found, let the water run slowly on such spots while at work on the place.

There are two serious defects in-

In a Redlands Garden.

less way of watering, at least fifty per cent more water is used than is necessary to get the best results from the time consumed and money spent in the operation. Plants should be syringed at least twice every week to keep the foliage free from dust, also to keep in check aphis or green fly and other predatory insects, but water thus applied is small in quantity and evaporates away in a very short time.

A lawn where the supply of moisture is not drawn upon by the roots of large trees, either growing thereon, or along the curb, if thoroughly watered once a week, along the coast where fogs prevail, and twice each week in the interior sections of the state, where neither fog or dew is found during the summer, is ample for the requirements of the grass. An additional watering in either case each week will be necessary if trees are present, providing however, that enough plant food has been applied to meet the necessities of the plants in making a good growth.

No one need hope to have a luxuriant lawn who is not liberal with fertilizer in some form—the commercial brand being the best, because free from weed seeds, no matter how much water is applied.

Level lawns are easily taken care of, the water remaining where it falls, but the terraced lawn in this country is the despair of the gardener who cares—if he is limited in time to its care. The sub-soil will dry out in places more rapidly than in others, the grass will suffer in consequence thereof, the owner will accuse the gardener, unjustly, with separably connected with excessive watering of lawns and flower beds.

One is that the roots of the plants are induced to grow near the surface of the soil because of warmth, and the other the dissolving and leaching away of the elements of fertility into sub-soil beyond the reach of shallow rooting plants as most are which we grown in lawn or flower beds.

Roses if thoroughly watered once in two weeks in coast sections, once a week in the interior parts of the state, are abundant during the flowering period, and but once in the two months of their resting period during the mid-summer months, if a good crop of bloom is wanted during the fall and winter months, while begonias, coleus, and that class of plants which luxuriate only during warm weather, must be bountifully supplied with both food and water. Semi-aquatic plants, to which class papyrus, elephants ears, bananas and ginger plants belong, should be so located that they may receive at least 12 inches of water every week from the middle of June to the first of November, and stable manure, the cleanings of the hennery, or in lieu of the latter, commercial fertilizer in liberal quantities, to insure fine tropical effects. In the interior sections of the state with a low relative humidity, the above named plants will not give satisfactory results, no matter how much water may be applied to the roots. Evaporation of moisture is so rapid that only drouth-resistant plants will flourish there.—Pacific Garden.

---

Keep the tree free of suckers.


# Practical Tools

To produce a level surface requires a keen plane; to make an exact mortise calls for a true-edged chisel; to bore a smooth hole you must have a clean-lipped bit in a steady brace; to saw a straight edge demands a perfect saw; and so on through the realm of practical work.

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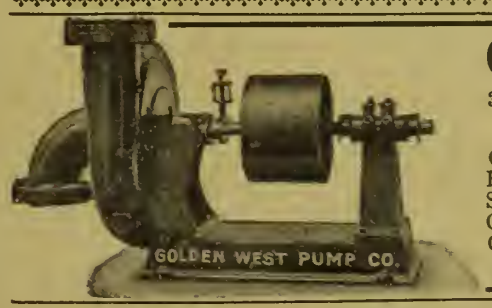


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Address All Communications to
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Entered at the Post Office at Los Angeles, California, as Second-Class Matter.


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### DEEP CULTURE.

Our readers will find another excellent article on the first page of this week's Cultivator, which, as is often the case with these articles, is written by different individuals who are eminently qualified to speak on the subject in hand. Perhaps one of the most difficult problems confronting the farmer is that of managing the soil. Some years ago it was claimed by many farmers that with commercial fertilizer at hand, any soil could be made to produce wonderful crops. It cannot be denied that commercial fertilizers are of a great advantage and have been used to advantage in nearly all farm productions, but in more recent years the great importance of mechanical conditions of the soil, has become more appreciated and this point is especially emphasized in the leading article this week. The trend of the article is not to show that mechanical condition is the entire requirement, but that it is the first requirement. After that fertility added to the soil in the form of commercial fertilizer is in order.

To secure that mechanical condition, the addition of humus, the use of lime, deep cultivation and other factors are referred to as essential. Perhaps the two greatest factors are the humus and then the deep cultivation, which will admit the air to the soil and allow the minute forms of life essential to plant growth to have the best conditions that they may increase. One farmer who recently asked as to bettering his soil conditions, when it plainly required deeper and more thorough cultivation as at least one of the factors, complained that his work was largely contracted and his contractor was not supplied with horses of sufficient strength neither tools of capacity to give what he realized the soil needed. Such a condition of course cannot be overcome unless the farmer will secure proper tools and power. This means funds to command such appliances, but as Mrs. Sherman said in one of her articles recently, ready cash is one of the requirements of farming.

If the farmer is not able to command these, then by being careful even with indifferent tools, thorough tillage may be given though perhaps at greater expense and with greater test of the farmers ingenunity.

### BE CAREFUL.

On the citrus page this week may be seen quotation from a circular issued by Mr. Chas. D. Adams, manager of the Upland Citrus Association. That circular calls attention to the necessity for greater care in bringing oranges to the packing house, and adds that "For all loads delivered after the 20th of June, which come to the packing house without being covered, there shall be a penalty of a quarter of a cent a box to be charged to the account of the owner of the fruit." Such a penalty is most just and reasonable and is what the careless fruit grower is compelled to undergo, only it is not always so definite of perception. That is, when he carelessly picks and packs his fruit and receives indifferent returns, he proceeds to condemn the transportation company or the commission man. The Cultivator realizes that these agencies or some of their mehods, rather, are often worthy of most hearty condemnation, but that should not justify the grower in being careless in his own methods. Let the greatest care begin at home and save not only the quarter cent penalty an association may place on each box, but the greater penalty, which often is not so apparent, which comes from illy prepared fruit.

### BEAUTY AS A COMMERCIAL ASSET.

The great influx of visitors to California induced by the meeting of Elks in Los Angeles again emphasizes the commercial value of beautiful road ways, parks, and other attractions. California, especially the southern part of the state, has never been backward in its improvements, but there is opportunity, especially in the rural districts, for greater extension. It cannot be gainsaid that real value is given to property by attractive borders and parkings along the roadways. It has been remarked that a place does not produce any more for its greater beauty, but even that we would question. It is true that in themselves the attractive borders or parking do not cause the orange tree, the apple tree or the berry bush to produce more fruit, but the spirit of thrift which is manifested by cleaning up and beautifying the front of the place is likely to cause greater care and more intensive cultivation of the productive part of the place that it may be in keeping with the attractive outside. We are largely creatures of environment. Slovenly surroundings are liable to encourage slovenly ways of doing work. Likewise neatness and thrift encourage their kind, and our remark that we believe there is commercial worth in attractive surroundings and well kept property will almost invariably be made good. Of course, in addition to that is the fact that at such times as these we are judged perhaps by visitors whose impressions gain for us a reputation which is of commercial worth from the real estate standpoint.

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It is reported that the investigating board appointed by former President Roosevelt to look into the matter of the effect of sulphur on fruit as a food for humans, will visit California during the present month. The mission will be to investigate the fruit drying process and possible methods of improving it. It is possible that Secretary Wilson may visit the state on the same mission.

### MECHANICAL CONDITION OF SOIL.

(Continued from Page 51.)

give undoubted benefits on account of the flocculation of the soil, we are still in doubt as to whether the land described does not need other fertilizing substances as well.

There is no doubt but what sugar factory lime is the best form in which lime can be used for application to the soil, not only because it is very cheap, but because it is very finely comminuted having been first milk of lime in the process of preparation for its use in the sugar factory. In addition, it also contains fertilizing elements which an analysis at the University Experiment Station demonstrated is of greater value than the first cost of the sugar factory lime to the user.

Above all, we believe that it is necessary to use cover crops, and, as suggested by some writers, the application of straw and strawy manure is especially desirable. One point not made we would emphasize, and that, is that it is necessary to put in a team or teams which are able to work this ground deeply, and in that way break up the plow sole or hard pan which may be forming under the present cultivation. Stiff soil demands heavy teams and strong tools.

* * * *

Another inquirer asks as to gypsum and its effect upon hardpan, especially for a soil that is rich and productive in a wet season, but at the same time affected with white and black alkali. If the season is very wet the hardpan seems to hold the water so that there is some drowning out of plants. This land is covered with alkali weeds twelve or fifteen inches high. Should they be plowed under?

Prof. Wickson has given the following advice:

**Prof. E. J. Wickson.**

Gypsum will not always help hardpan. It depends upon the nature and composition of the hardpan. It is sometimes too rich a lime already. Gypsum will turn black alkali into white, thus reducing its appetite somewhat but not getting rid of it. If he cannot irrigate, he should plow under as much winter growth of green stuff as he can and grow a summer crop for which (from what you say about drowning out) the soil may retain moisture enough. If he has water to irrigate and can afford to put in under-drains about three and a half feet deep and fifty feet apart, he can irrigate (or take care of rainfall) without danger of drowning out a crop, and his alkali will go out with the drainage and the hardpan will disappear also.

## Shop Talk

**VALUED FRIENDS.**—In remitting for a new subscriber Mr. M. B. Curtis of Mercedes, Texas, writes: "I also send herewith a list of names of possible subscribers to whom you might send sample copies. I think the Cultivator more nearly meets the needs of the people of this section than any other horticultural paper I know of. I think too that the readers here will find much of interest to them in the advertising columns of the Cultivator."

The last sentence in Mr. Curtis' letter is worthy of further attention, we think. Many readers look upon the space given to advertising as so much loss to them and consider only the half of the paper given to reading matter as of value. These same people often may find most attractive information in these advertisements, information as to improved machinery which gives their farms greater producing capacity and permits them to place their crops on the market at lower cost. The work of manufacturing is making great strides in advance every day. The agricultural class must appreciate that, and does in fact, but not to the extent we believe it should. A careful observation of the advertising columns of any class paper cannot help but keep posted and in the front rank those who are engaged in the particular business to whose interests the paper is devoted. To this rule the farmer is no exception. We certainly believe Mr. Curtis states a most self evident truth when he says: "Our readers will find much of interest to them in the advertising columns."

By the way, the spirit which Mr. Curtis shows in sending a list of names of possible subscribers to whom we may send sample copies, is worthy of being followed by a greater number of our friends. The Cultivator is bound to improve, but our friends may help it along that line by thus occasionally sending lists of names or speaking a good word for the paper in their neighborhoods.

# Agricultural Notes of the Pacific Coast

## Northern California

Petaluma has a new creamery recently established.

Most of Corning's apricot crop was shipped to Seattle this season.

A large number of Hindus are picking fruit in Biggs, Butte county.

The first shipment of Bartlett pears was on June 21st from Yuba City.

A plan is on foot to secure better drainage of lands near Live Oak, Sutter county.

The last planting of sugar beets in Yolo county for this season was near the end of June.

The Yolo County Live Stock and Race Meet will be held at Woodland, August 18th to 21st.

San Francisco sportsmen contemplate the establishment of a large trout farm near Haywards.

A surveying crew is running lines to locate the route of a canal along the Eel river in Humboldt county.

Canners report the hold-over stock on the coast as almost nothing, while the demand is good for this year's output.

Prof. Hopper of the University Farm at Davis has been investigating dairy conditions in Humboldt county.

A number of orchardists at Haywards contracted for their entire output of apricots for $22 and $25 per ton, orchard run.

Lincoln, Placer county, reports sufficient flow of water for a successful season. Wells recently sunk have proved good producers.

The cannery at Milpitas, Alameda county, was recently destroyed by fire and will cause much loss to growers who had expected to dispose of their products.

The Pacific Fruit Express Company will enlarge its capacity to handle California fruit by adding a million and a quarter dollars worth of rolling stock.

An exciting grass fire occurred in St. John, Glenn county, which burned over a vast amount of hay and grain and one stack containing over 150 tons of hay.

More land has been purchased by the Pittsburg syndicate which has been investing in lands in Glenn county and great improvements are anticipated.

A grain grower at Hamilton City, Glenn county, followed his sugar beet crop with wheat this year with the result that he averaged fifty-six and a quarter bushels per acre on 125 acres.

A Sacramento merchant has a letter from Mr. David Lubin in Rome who says that the reputation which California fruit has secured there is such that it is demanded by the best customers.

The large force of men working on the dam sixty miles from Orland is making progress and it is now said that the dam will be 190 feet high when completed and will require 13,000 yards of material.

The law passed by the last legislature changing the dates between which deer may be killed makes a two week's longer period than the former law. The season opens July 15th and extends to November 1st.

## Central California

Lindsay shipped eighty-two cars of oranges up to July 1st.

San Benito Valley claims to be the greatest hay center in the state.

Many grapes in Tulare county dropped badly on account of mildew.

The Pacific Sugar Corporation's Corcoran plant began operations July 8th.

A big grass fire did much damage in southwestern Tulare county last week.

The San Joaquin table grape growers are being offered $25 per ton for tokays.

All danger of high waters along the rivers of the San Joaquin Valley is now past.

Wooly aphis is reported to have been exceedingly bad in Kern county this season.

The State University is to issue a series of post card bulletins with instructions to farmers.

The fear of squirrels spreading bubonic plage is giving impetus to the campaign against them.

Some fields of wheat in Angiola, Tulare county, have been seriously affected with rust.

Greater precautions than ever have been taken in the forest reserves to protect from loss by fire.

Fruit trees in the neighborhood of Tehachapi are reported to be in exceptionally fine condition.

The effort to establish a grape juice factory at Hanford has been abandoned for this season.

Some fruit trees in the Poplar district, Tulare county, were injured by standing water at the time of flood last winter.

The U. S. Geological Survey has classified the lands of Kern county, separating the agricultural from the mineral lands.

Kings County shipped its first car of dried apricots from Armona June 26th. It was bought by the Armsby Co., at eight and a half cents.

Careful estimates by the leading citrus growers of Tulare county show that the output this season will be about sixty per cent of the normal.

All records of fish catches in Monterey Bay were broken recently when 7,000 salmon averaging 17 pounds each were the result of the day's catch.

Some physicians have warned against the use of cabbage which is affected with the brownish colored mold leaving small brown spots on the leaves.

The Kings county Chamber of Commerce has issued a small circular under the title of "Little Stories of Kings County Products" which contains most attractive matter.

The San Benito County hay growers are warehousing most of their crop owing to the buyers attempting to bear the market and making offers so low that the farmers refuse to accept them.

The holdings of the great Miller and Lux firm in real estate in the San Joaquin Valley and Nevada at one time aggregated 14,569,180 acres, or more than the kingdoms of Belgium and Denmark, and about two-thirds as large as Ireland.

## Southern California

Escondido, San Diego county, has a sunflower eighteen feet tall.

Planting of celery is in full swing in the Orange county peat lands.

The Ventura output of apricots will be exceptionally heavy this year.

Orange county apricot crop is the best in the past half dozen years.

Malaga grapes have already been shipped from Mecca and Coachella.

The last day of June showed the mercury recording 115 degrees at Imperial.

The Beaumont cherry crop has been marketed at exceptionally satisfactory figures.

One orchard in the Yucaipe Valley marketed 7,000 pounds of cherries daily in the season.

All oranges excepting Valencias are somewhat in the dumps and are closing the season in bad form.

Impeial hog raisers have secured big returns for stock this season, one grower netting $1,100 per car.

Southern California lemon growers are well satisfied with returns for lemons for the last few weeks.

Shipments of melons from the Imperial Valley are rapidly declining. Prices have been fairly satisfactory.

A celery grower near Wintersburg, Orange county, produced $900 clear on three acres of celery last year.

The new sugar factory at Santa Ana, Orange county, is said to be one of the most up-to-date factories in the state.

Two and three cars of potatoes are shipped daily from Anaheim. The growers are receiving about one dollar per sack.

The Secretary of the Interior has fixed upon 40 acres as the farm unit for the lands which will come under the irrigation waters from the Laguna dam.

The high water of the Colorado filled the lowlands across the Mexican line so that some back water flowing into the New river found its way to the Salton Sea.

The Highland Protective Fruit Association is the newest fruit organization in the state. The association proposes to erect a packing house and handle fruit of its members.

Riverside reports that the Department of Agriculture contemplates the placing of an expert in California to investigate as to the possibility of an improved strain of navel oranges.

Some Imperial hog raisers declare the discrimination by buyers against hogs raised in that valley is unjust and if maintained will reduce the number of hogs raised in that section.

Hemet apricot growers have been the busiest of men for the past few days, most of their fruit having been dried on the ground, though some of the fruit has been shipped to Colton canneries.

At the annual meeting of the Highland fruit growers' association, the election resulted as follows: President, J. L. Yarnell; vice-president John W. Corwin; secretary and general manager, L. S. Steele; directors, L. C. Waite, J. L. Yarnell, Mrs. James Fleming John W. Corwin, S. G. Lamb.

## The Coast

The first summer rains began in Arizona July 6th.

The State Horticultural Society of Oregon held its annual meeting at Salem July 8th and 9th.

Many potato growers near Spokane marketed their new potatoes this year in crates instead of in sacks.

The demonstration train now touring eastern Washington is being given immense audiences at every stop.

A cargo of 200,000 pounds of wool was recently shipped from Asotin, Washington, to scouring mills at Pendleton.

Plans are already being laid for larger planting of sugar beets near Glendale, Arizona, than in any past season.

The mustard pest has a more extensive growth in eastern Washington than usual and has reduced the output of many fields.

The creamery at Waitsburg, Washington, which has failed twice, has finally been put upon its feet and has made a successful run.

Many Spaniards employed on the sugar plantations of the Hawaiian Islands have been attracted to Mexico by offers of better treatment.

Whitman county, Washington, will produce 13,000,000 bushels of number one wheat this year, which is the biggest production ever in that county.

Nearly all green fruits from the section about Sacramento have been selling satisfactorily this season. About fifty cars have been going forward daily.

The recent session of the Washington legislature failed to make an appropriation for the horticultural board and the State Board will be without funds for one year.

Walnut growers near Pomeroy, Washington, are greatly extending the acreage of walnuts. This is caused largely by the profitable seasons for walnuts the last two years.

Oregon fruit growers will attend the national irrigation congress and are planning for a big feature in the parade. They will show the advancement made in irrigation in Oregon.

The Hawaiian Islands are considering the advisability of using ohia wood for railroad ties. The conclusions reached are that "on the whole this wood compares with the best red oak."

The superintendent of entomology of the Hawaiian Islands reports that during one month recently he inspected 32,738 parcels, one hundred and ten of which were fumigated, fifteen burned and five ordered returned.

At a recent meeting of the Feather River Flood Protective Association the matter of a survey from Oroville to the Ord Ranch and the matter of securing protection from the dredgers which are causing the overflow were discussed.

Mr. C. H. Rodgers, President of the Orchardists Association writes us that this season's yield of apples so far as can be judged at this early day will probably reach 4500 cars in the Pajaro Valley, i. e., there will probably be 3,000 cars packed for market and about 1,500 cars for canning, drying, cider, vinegar, etc.

**FOR MOULTING HENS**

**Feed**

# MIDLAND

## Poultry Food No. 4

***$1.95 per Sack***

Midland moulting food is a balanced ration for the moulting hen and is absolutely the best food to feed for eggs and feathers. By feeding No. 4 now you bring your flock through the moult in good condition, which insures eggs when the market is high.

***Petaluma Incubators and Brooders***

Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

Send for our Illustrated Catalogue.

**Petaluma Incubator Company**

**Petaluma, California**

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**Feed for Eggs Next Fall by Starting In Now with**

# West Coast Egg Food

Don't make the common mistake of supposing that you can let the fowls get all run down before or during molting and then bring them up by heavy feeding later. You won't get eggs that way.

West Coast Egg Food has been the leader for many years. It is even better this season. We know how to make rightly balanced rations. That is our business. And we have the best equipped mill for doing it. No unsound grain, no mill refuse and such stuffs in ours.

Send for Biddy Booklet with many testimonials. Ask your neighbors, for there are more West Coast Poultry Foods fed in Southern California than all other kinds put together. If your dealer doesn't sell "West Coast" don't take others "just as good," but send to us and we will serve you right.

Made by the

**West Coast Mill**

**Cor. Griffin and Alhambra, Los Angeles**



**Single Comb White Leghorns**

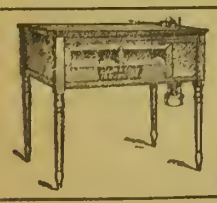
The first essential to success in the poultry business is that the foundation stock or eggs be purchased from a reliable breeder, one who has made a success of the poultry business from the fact that his stock has proven to be the Business Hen. Such stock or eggs we now offer you and stand back of our sales. Prices for stock on application. Correspondence solicited.

Eggs—$1.50 per 15, $7.00 per 100 and $60.00 per 1000.

**STUHR-WILLIAMSON POULTRY CO.**

**378 Bandini Ave. Home Phone 1490 RIVERSIDE, CAL.**





**WHY?**

Do All Prosperous Poultrymen Use

***Jubilee Incubators and Brooders***

Our Catalogue A Will Tell You. It Is Free.

***Jubilee Incubator Company*** ***Sunnyvale, Cal.***


Binders are rapidly taking the place of headers in the grain fields of Washington.

Farmers near Morrison, Washington, are discussing large irrigation improvements for that section.

# Profit in the Poultry Yard

By Mrs. Frank Metcalf

**We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.**

### MANAGEMENT VS. LUCK.

A KANSAS lady wrote the "agricultural editor" of a great political daily as follows: "Can you please tell me what ails my chickens? I hatched nearly three hundred this spring, and have only fourteen left. All the rest appeared to die of some strange disease." The editor replied: "This is an unfortunate state of affairs. Judging from the symptoms given by this lady, we are inclined to believe her chickens died of inability to live."

This was a good answer, and just such as I ought to give to many querists who give me about as much information as this lady gave the editor. For instance, a man writes: "The past three years I have hatched nearly a thousand chickens, and actually raised less than three hundred of them. I am going to try it again this year and if I have no better luck I am out of it for keeps. I know about twenty people who are in the same boat with me. We have poultry papers and books galore, and we have dropped hundreds of dollars into advertised stuff, but still go gaily on losing our chicks by the hundreds. Personally I am beginning to think this poultry business is a fake of the fakyist type. Can you give us any information that will help us any? Can you tell us why it is so hard to hatch chickens, and then so much harder to raise them?"

Notice how much information this party gives. He mentions one thing that gives a slight inkling of the cause of his non-success, and that is "luck." A man living not far from me hatched about four hundred chickens, and they were growing finely. He and his wife were smiling widely about their "good luck." One fine Sunday they drove to the home of a friend, about five miles distant, for a visit. While there, a storm of hail and rain exploded over that locality with scarcely any warning. Of course all the hens with their broods were some distance from the farm buildings, as also were the larger chicks. The family hurried home as soon as the storm was over, and, as they feared, found but very few chicks about the yards, but in the orchard and adjacent pasture and against the wire fence were plenty of them, cold and stiff. They lost nearly three hundred. The man said it was the "durndest streak of bad luck they had run against in a coon's age!"

A neighbor of theirs, who does not believe in luck, had more chickens than they had, and he did not lose one. They were enclosed in a yard 50 feet wide by 230 long, with their coops and a house and shed to get into, and there they went when the storm began. And, by the way, this man has some ideas of his own about raising chickens. He has two yards, 50x230 feet, side by side. They are fenced with wire fencing, with one-inch mesh netting 12 inches wide at the bottom. His house and shed are at one end of the yards and open into both. He raises his chicken crop in one yard and his garden vegetables in the other one year, then changes about the next. The chickens get all the vegetable tops and trimmings from the garden for greens, and they keep them pretty well cleaned up. He keeps two or three coops of the smallest ones in the garden to clean up the insects. When they begin to damage things they go into the other pen, and more freshly hatched ones are brought in. He always raises lots of chicks, and always has a good garden. But, as I said, he doesn't believe in "luck," but has great faith in management.

That thing, management, evidently is what my inquiring friend, and the other twenty he mentions, lack. The fellow that believes in "luck," strange compound, self-acting and self-managing hatching and raising machinery, and fowls and chickens that are wise enough to take care of themselves under all circumstances, is the chap that goes out of the poultry business. There are thousands of such, and they make things pleasanter for the parties who are sharp enough to believe in close attention and good management, because they leave the market to them.

Six years ago a fifteen-year-old boy wrote me that his father had given him the poultry, and half his time to take care of it, together with all the grain he needed. He said that people in his locality did not seem to have much luck with their chickens, but he meant to give it a try, anyway. I suggested the two yard system as being the simplest, and easiest managed, and told him to borrow money for his fencing, if he did not have it, and to go in and win. He borrowed the money from his father, put up his fences, made his coops, etc., and went at it in earnest, and stuck to it. He succeeded from the very start and astonished the natives. Four years afterward he went to a college to learn civil engineering, paying his way with the money he made from his poultry. He wrote me that he had enough to put him clear through. His neighbors said he was "naturally lucky" with chickens. But it was sensible management, that was all.—Commercial Poultry.

### IMPORTANCE OF SHADE.

While sunshine in wholesome quantities is good for chickens of all ages some provision must be made to supply shade in hot weather to prevent losses from sunstroke. Berry bushes supply admirable shade. Growing corn or other grain gives grateful shelter in hot, sunny weather. Canvas and board shelters should be supplied when stock cannot have shelter of bushes, shrubbery, trees or growing grain. An orchard makes an ideal summer run for growing chicks.

Canvas or awning cloth tents or shelters stretched over common slatted "A" coops afford excellent shelter in exposed locations and can be easily arranged. Even weeds may be made to serve for shelter from the hot sun. Whatever you do don't fail to provide shade of some sort.

When the chicks begin to show a disposition to go to roost at night provide open-front roosting coops made from packing boxes, piano boxes or supply the portable coops which

may be obtained of any poultry supply depot. Don't be afraid that roosting young will cause crooked breasts. Crooked breast bones are the result of faulty nutrition and insufficient mineral food and not of early roosting. Supply plenty of green food and an abundance of dry granulated raw bone (oyster shells also after the first month), and you need not fear crooked breasts. Proper food, green food and plenty of mineral food in shape of bone and shell will also prevent leg weakness.—Reliable Poultry Journal.

### INCUBATION OF LONG AGO.

The poultry business has long since identified itself with the rushing throng and forged ahead. What has been done? Let us look into the past. In Egypt we find people hatching eggs in the hot sand and barrel-like oven or steve. Thermometers are not used. The attendants endeavor to keep the heat a trifle greater than that of their own skin. Artificial incubation is said to be older than the Christian era. Eggs were hatched in countless numbers long before anything was recorded as to the existence of poultry itself, and while it does not seem worthy of consideration to quibble as to time and state of things that existed 4,000 years ago, at the same time it is not out of place to state that we are not even good imitators of artificial methods as applied by the early-day Egyptians, who managed ovens that would incubate thousands of eggs at a time, without thermometer or regulator. This mode of hatching continued for generations, and it is only in late years that the inventive mind of man saw a chance of great improvement, and he has kept at it until today we have before us almost a perfect incubator. What is the cause of this great interest manifested in poultry? The poultry press. We have the incubator about as near perfect as it can be made. Before long nearly all the poultry will be hatched by the incubator, as the old hen is too slow for this age. We must have chickens by the thousands instead of by the dozens. The business will not be overdone. It don't look that way now, with the prices of poultry and eggs growing better each year. The Chinese plan is considerably aided through the unusual strength and vitality of the fertility of the eggs, their small flocks of poultry that roam about their door yards being of unusually strong and vigorous quality. The constitutional strength of these flocks produces eggs that will respond more readily to these artificial methods than might perhaps the eggs from less vigorous stock. On the other hand, the indomitable perseverance and continued activity of the Chinamen for full twenty-four hours of the day, if necessary to attend to the work, leave no stone unturned for success.—Commercial Poultry.

### THINGS WORTH MEMORIZING.

Never compel a hen to lay in a nest that is filthy. It is a thing the hen detests above all things.

Get some bone for your hens some way. If you can't do anything better, take a bone, and hew the scraps off with a hatchet. I have seen men do that; but look out for your fingers if you try it.

If any disease gets among your birds, especially if it be contagious, better clean the whole brood out and begin over again. But before you get the new fowls, thoroughly fumigate and otherwise renovate the houses from ceiling to floor. You cannot be too careful about this.

Keep an eye out for insect pests. They will bite any time, but you can furnish dust, and you must if you will have healthy birds.

Your roosters will not lay any eggs. Now is the time to get rid of this superfluous stock. Even if they do lack a couple of pounds of coming up to standard weight, sell them. The laying stock cannot have too much room, and every rooster takes up more room than pullets, and amounts to nothing.

To successfully raise the best and most profitable fowl the farmer must plan and follow out a systematic course in breeding and raising his flock. Never breed from the entire flock, but select the choicest specimens, which must be carefully separated from the more or less defective birds, and from these alone, should the eggs for hatching be obtained.

A few tobacco stems or a little cheap tobacco placed in the nests for the sitting hens will help to keep the lice in check.

Upon receiving eggs for hatching from a distance, it is well to let them stand twenty-four hours before placing under a hen or in an incubator.

If at any time any bird in the breeding pen shows signs of disease, remove it at once. No ailing bird should be allowed in the breeding pen under any circumstances.

It is a waste of time, space and food to attempt to grow exhibition birds of merit from inferior stock. The very best will throw quite enough of the poorer quality.

Place the brood coops facing the south early in the season, so that the sun's rays will penetrate the interior of the coop. Sunshine is a disinfectant. Clean the floors of the coops daily and thoroughly clean and disinfect the entire interiors of the coops at least once a week.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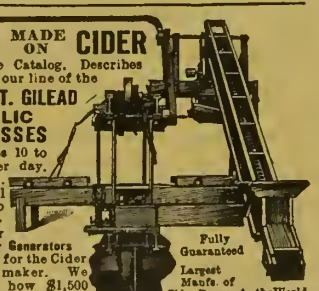
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# Bees and Their Care

By Henry E. Horn, Riverside

## HONEY CROP ESTIMATE.

THE present has been another of those seasons, all too numerous in the southwest, that start out with smiling promises for the honey makers, but keep them not. How green and strong of growth the sages looked the first of April, how full of nectar the first few advance blossoms, how balmy the air and genial of warmth the solar life giver. And the bees, trusting to promises, reared armies and armies of workers to house the gifts of nature when the time should come

Of course, nobody ever expects much else of April, but change and variety, meteorologically. And change and variety duly arrived. Towards its end, though, as usually, the weather became warm and settled. And then came far famed May. The first was a beautiful day. From the time the first faint halo of the approaching Day-God sharply silhouetted the dark hills against the eastern sky, until its last golden rays faded away in the west, it was all, almost too perfect for this troubled world. The second broke with a "high fog over the citrus belt" as the weather clerk charmingly puts it. It cleared away about 8 a.m. But after that "high fog" stayed with us till noon, and often later. And with fog and cloud, cold winds.

That lasted, excepting just four days, until the 29th. That day a belated, but nevertheless highly efficacious "norther" cleared the sky with a vengance. And on the 30th a "scorcher" registered 105 degrees in the shade. And so May 31st, and June 1st, and June 2nd.

It moderated after that, but the damage was done. The sage was burned up, and from green, the looks of the hills had changed into brown in just four days. Back east people having heard so much of California's wealth of wild flowers, somethimes wonder why we don't flood the country with honey ever so often. Well, the tolerably fair weather record given above may serve to let some light in on that subject. And it may serve another purpose. Many beekeepers must sell their honey as soon as it is off the hives. As a rule early prices are low; and that for the reason, so sellers are told, that here and there great crops are being secured.

Well, this year the southwest at any rate is not harvesting great crops of honey. This applies, of course to the spring yield only. and the natural pasturage, but as that is practically all there is it really means the season's returns.

The reports from the half dozen sage counties vary as to yield, from well nigh nothing in the worst places to about two-thirds of a crop in the best. This means the extracted or "strained" article. Comb will be less than that.

Imperial valley will probably again get an average amount of extracted alfalfa, so late personal letters inform the writer. And, by the way, average crops is all there ever need be expected from that valley hereafter. There is too much crowding now ever to repeat the phenomenal yields of past years any more.

Owens valley, that almost forgotten mountain pocket beyond the slanting shadows of Whitney, expects to secure about 125 tons of comb honey. The heavy body of their product forbids all extracting, so comb is all there is. For the sake of timely heading off a rush of "sooners," this bit of information about the Owens country might cause among the excitables, it may be added that the yield per colony is only about 60 pounds, and that the price never runs over ten cents. There are a few good locations there yet, though.

Figures of prices sent out by buyers vary more than seems rational. "Water white," that aristocrat among honeys, should never go at less than 6½ to 7 cents f. o. b., yet commission men will thoughtfully finger off the ashes of their cigars before they rush at you when you say six. New crop Imperial alfalfa (amber) goes by the car at 5 cents f. o. b. shipping point, and is easy worth every bit of it. Up north a car or two of amber was lately traded for at 4½ cents; but, then, that honey was old crop, some nearly three years old, and, of course, candied solid. Half a cent is about the usual deduction for candied honey, though the retail market bears but little prejudice against it on that account; indeed, most people prefer it in that state.—Henry E. Horn, Riverside.

## EASY THING TO CARE FOR BEES.

IT HAS been thoroughly demonstrated that bees do play an important part in pollenating fruit-blossoms, also in pollenating cucumber blossoms, and clover and buckwheat. It is apparent that the fruit grower, if no bees are kept within half a mile of his place, ought to keep a few for himself, writes E. R. Root, editor Gleanings in Bee Culture.

But he may object, on the ground that he is afraid of them; that they are always stinging everybody and everything on sight. This is a mistake.

When properly handled, bees are usually tractable. As a general thing they will mind their own business much better than poultry or other farm stock when left to themselves.

But Mr. Fruitgrower will say that he cannot afford to waste any time in handling swarms.

## WATER FOR THE BEES.

Give the bees plenty of water. They need a great deal in the hot, dry days of summer, and will fly a long distance to get it.

If there is no running stream or lake of pure water near, it is well to place a pail of fresh water near the apiary every day.

Some genius has figured out that a bee will, on a busy day, draw sugar from 120,000 different clover heads.

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The reclamation service paid $25,000 for the reservoir system near Orland, and it will be part of the big Orland system.

## POULTRY AND BEES.

There are few inquiries that come to the experienced bee-keeper more frequently than this: "What other occupation can one combine profitably with that of bee-keeping?" While the concentration of effort is wise in all our plans, work, and efforts, and while the specialist is most likely to make a shining success of his work, yet in case of bee-keeping, with its numerous off-years, it is wise to find some supplemental pursuit that will enable one to keep the pocketbook occupied in these same off-years. Is not poultry culture the one best suited to this need of all our rural pursuits? If one has a special leaning toward fruit-growing, then that may well be considered; but poultry culture is interesting, profitable, and there is always sure to be a demand for the product of the chicken-fancier. The same habits of punctuality, alertness, push, that make the successful bee-keeper are just what are demanded to win success in the care and management of poultry. I have been successful with both bees and poultry, and I am persuaded that no other line of work will prove better suited to the average bee-keeper than the care of poultry.—Prof. Cook in Gleanings in Bee Culture.

## DOCTOR DISCUSSES RATTLESNAKE BITE.

Declaring that there is no absolute antidote thus far discovered for the bite of a rattlesnake, and upsetting many of the popular superstitions regarding the American reptile, Dr. John Marshall, professor of chemistry and toxicology of the University of Pennsylvania, spoke last week before a group of physicians, says the New York World.

The lecture was the result of observations obtained by Dr. Marshall in five years of research.

"There is no antidote for the bite of a rattlesnake" declared Dr. Marshall. "The popular methods of treatment are all wrong and do no good."

"A very small percentage of adults die from rattlesnake bites. That is because the snake cannot inject sufficient poison to cause death . But most persons, when bitten, become badly frightened, and the whiskey may act as a stimulant and thus keep the victim from dying of fright. But where the poison is sufficient to cause death the whiskey cannot retard its work."

"Another popular cure for a snake-bite, the application of permanganate of potash, does no good. It is true that it will decompose the venom in the immediate vicinity of the wound, but it does not follow the poison into the circulation. If it did, it would cause death itself, because it will decompose the blood as well as snake poison."

"Caustic is used in many cases, or the wound is seared with a red-hot iron. The only result obtained is the infliction of a terrible wound, while the progress of the poison is not stayed."

"There is a blood serum which is successful when used. It is obtained in the usual way. A horse is inoculated with the venom and the serum obtained from its blood. This serum will check the poison, if used, but what man carries with him into the haunts of the rattlesnake a quantity of serum and an antiseptic hypodermic syringe for its use?"

"The treatment which is the nearest to nature is the one that is most efficacious. Cut open the wound caused by the fangs and then suck it until all of the poison is extracted."

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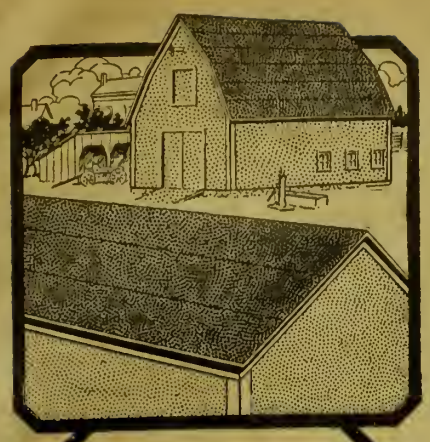

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# General Agriculture

## SPRAYING FOR WEEDS.

THE eradication of weeds by other than cultural methods has been a subject of study at a number of the agricultural experiment stations and elsewhere. This has resulted in the discovery that various chemicals through their corrosive or other action will destroy many kinds of weeds. As long ago as 1895 it was shown by the Vermont Station that the orange hawkweed, a pest in lawns and pastures, could be controlled by sowing salt over the lawns at the rate of about 3,000 pounds per acre without injury to the grass. Lime, salt, arsenite of soda, gasoline, kerosene, crude carbolic acid, and copper sulphate have all been recommended for destroying weeds in drives, walks, tennis courts, and other places where it is desired to keep down all plant growth. Where cultivated plants are grown, thorough tillage can be relied upon to keep down weeds, but the serious problem of eradicating weeds in grain fields, pastures, and large lawns is the one to which present consideration is given. For this purpose, whatever materials are used they must not be seriously injurious to the grain crop or the grass, yet they must be sufficiently destructive of weeds to make their use economically practicable.

In parts of the grain-producing States of the Northwest, wild mustard, or charlock, and wild radish have become especially troublesome, the wild mustard particularly so. This weed is very common in wheat, oat, flax, and other grain fields from Wisconsin to the Dakotas and adjoining States, and it not only crowds out more valuable plants, but it may become positively injurious through its abundance. Like many others of our most troublesome species, the wild mustard is of European origin, and for many years spraying with corrosive chemicals has been practiced in the warfare against the pest in Europe. Copper sulphate (blue vitriol) and iron sulphate (green vitriol or copperas) are the substances most used. Both are efficient in destroying the wild mustard, the principal difference being in their relative cost. The blue vitriol costs more per pound, but does not require as strong a solution as is necessary of iron sulphate or copperas. There is now on the market a granular form of iron sulphate that can be secured for about $10 or $12 per ton, or even less when bought in large quantities. This is applied in the form of a solution, about 100 pounds of copperas being dissolved in 50 gallons of water. At this rate it makes about a 20 per cent solution, and 50 gallons is sufficient for spraying 1 acre, if properly applied. For its application a good spraying machine is required, and if a considerable area is to be treated one of the better power sprayers that deliver the solution with considerable force should be used. For small areas, hand or knapsack sprayers may be employed.

The directions given by the Wisconsin Station for spraying oat fields with a solution of iron sulphate for the eradication of wild mustard will apply to the treatment of almost any grain or grass field.

The spraying should be done on a calm, bright day, after the dew has disappeared, as the work is more effective if the solution is put on in the warm sunlight. When rain follows the spraying within a few hours the extermination of the mustard will not be complete.

The grain fields should be sprayed when the mustard plants are in the third leaf, or before the plants are in blossom, in order to have the spray do the most effective work. The day following the spraying the tips of the blades of grain may be somewhat blackened, but no detrimental effects can be noticed, either to the crop or grasses seeded with it, two weeks after spraying.

Daisies, cocklebur, bindweed, ragweed, chicory, sheep sorrel, yellow dock, wild lettuce, and many other weeds were partially or wholly eradicated from the fields where tests were made for the extermination of mustard.

In addition to the charlock, or wild mustard, and those mentioned above, other weeds are destroyed by the spray without injury to the crop, among them, according to the reports from the North Dakota Station, being the very troublesome Canada thistle.

The explanation of the action of the chemicals seems to be about as follows: The chemical, which is corrosive, attacks the young and tender tissues of the rapidly growing weeds, causing their destruction, while there is little if any injury to the grain crop, particularly if it is a winter grain or one that was sown early in the spring, so that the crop has gained considerable growth before the spraying.

Investigations at the North Dakota Station with chemical means for the control of weed pests have shown that in addition to weeds in fields, such persistent weeds as dandelions may be eradicated in lawns, parks, and meadows by thorough spraying with the iron sulphate solution without any injury to the lawn or pasture grass. In the region about Fargo, where the experiments were conducted, spraying once a month or every six weeks throughout the year was found to keep the dandelion in check. For spraying lawns the application should be made a few days after the grass has been cut, with a solution of about two pounds of iron sulphate to a gallon of water. The spray should be forcibly applied, not merely sprinkled over the weeds, on a bright sunshiny day, and the lawn should not be mown for two or three days after the spraying. Heavy rains soon after the spraying will destroy the weed-killing power of the solution. Wherever chemicals are used for weed eradication on lawns it will be found advisable to scatter grass seed over the lawn each spring and fall.

In many regions alfalfa and clover fields are infested with dodder, a parasitic plant that may be recognized by its yellow, thread-like stems which entwine the plants. Hiltner says that dodder may be destroyed by spraying infested areas with an 18 to 20 per cent solution of iron sulphate. The immediate effect of the chemical is to blacken the clover or alfalfa, but after a short time the crop recovers and is as vigorous as ever, while the dodder has been completely destroyed. In South Africa, spraying alfalfa with sodium arsenite at the rate of one-half pound to five gallons of water when well applied was found to destroy dodder with little injury to the alfalfa.

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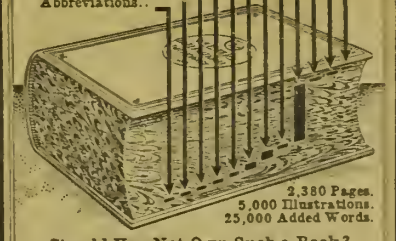

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# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Effect of Beets on Soil.

Is the growing of sugar beets detrimental to the land for the growing of orchards later on?

Would the growing of sugar beets between the rows of young trees be detrimental to them provided there was sufficient moisture provided for the trees?

Where can the material for inoculating alfalfa with the nitrogen gathering bacteria be secured? And would you advise putting it on alfalfa sown in the fall of the year?—W. W. C., Los Angeles.

The growing of sugar beets on land intended for orchards might even be of advantage. Of course, it cannot be gainsaid that any crop takes to a certain extent from the soil, but beets have proven a remarkably fine rotator when used with grains or other surface feeding crops. In any case the cultivation required by beets and the depth to which they go for much of their nourishment would have an advantageous effect on any crops which might be planted later.

As to planting between orchard trees, if the trees are young, we would not hesitate; if, as the querist says, the trees are supplied with sufficient moisture. It might possibly be necessary later to restore to the soil other elements, especially potash, which the beets have taken up, but we doubt not the return from the beets would far more than cover this expense. Outside of returning to the soil the elements used by the beets, we would say decidedly that clean and thorough culture of beets and removal of crops is better for the soil than the plan followed by some of leaving it to care for itself some little distance from the trees.

Material for inoculating alfalfa may be obtained from a neighbor's field which has grown alfalfa successfully for a period of years, i. e., if he will permit a load, or at least a quantity of soil to be taken from his alfalfa fields. This will carry bacteria enough to the new ground, if scattered broadcast over it and harrowed in, to answer all practical purposes. However, the seed men advertising in the Cultivator can supply you with a condensed form which may be handled according to directions and the seed inoculated before drilling.

### Houseflies.

Can you tell me of a repellant which will prevent house flies from collecting under porch and around doors and windows?—C. H. B., Petaluma.

We do not believe there is any repellant which would not be offensive to humans which could be used around the door very effectively. The best method is to see that in the construction of the porch there is left a chance for a free sweep of wind so as to leave no corners protected for the flies to gather in. A porch in the ell which has two protected sides so that the wind does not get in is sure to gather flies, and the minute the screen door is pushed open, they swoop into the house in swarms. It is possible that the scattering of buhach on door and window frames might make it so offensive that they would stay away for a while. At any rate it might be well to invest a dime in trying this remedy.

Another point which must be considered is the condition of the vault and stables where the flies breed. If these could be thoroughly cleaned and kept disinfected, fewer flies would be bred to cause so much inconvenience. The present campaign against these pests has shown the common housefly to be the medium of spreading infection of various diseases and to be one of the vilest of the pests which affect the household. It is not only a question of inconvenience as it has always been considered, but it is such a spreader of disease that not only every effort should be made to prevent it from entering the house, but it should be wiped out of existence. Manure from the stables should be spread and put under the ground as soon as possible. If left in piles about the stables it proves a perfect breeding place. The vault of the out-house should also be given care, and dry dust, air-slacked lime or other materials of the kind should be used most liberally.

### Reservoir.

Will you kindly state the size of a reservoir required to irrigate two acres of land two inches deep at one filling; also the thickness of the walls and amount of cement required to make a concrete wall for a reservoir of above size. Is there any advantage in building a round reservoir rather than one rectangular in shape?—Subscriber, Beaumont.

As there are 43,560 square feet in an acre and the inquirer wishes to irrigate two acres two inches deep with one filling, it would require a reservoir with a capacity of 14,520 cubic feet. A circular reservoir of this capacity if made eight feet deep, should have a diameter of 48 feet; if made six feet deep, it should be 55 feet in diameter. There is no particular advantage in making it circular, and if the land is high priced, it might be better to put in a square reservoir which would fit into the corner of the place and occupy somewhat less land. A square reservoir of this capacity six feet deep should be 50 feet square. If the convenience of the owner calls for a long narrow construction, he can easily determine the proper dimensions which will give a capacity of 14,520 cubic feet.

The walls to be perfectly safe should have at the bottom a thickness of four-tenths the height, i. e., for a wall six feet high, the width should be about two feet and a half at the base and taper to the top. Any mason can estimate the number of sacks of cement required for a wall of the shape and size determined on.

### Irrigation Laws.

Where can I secure California irrigation laws?—Subscriber, Gardena.

California has no complete irrigation law. The laws upon which most of our irrigation rights depend are scattered through the political code. One of the crying needs of the state is that these should be gathered together and a more consistent law enacted.

### Naming Grass.

I found a bunch of grass like the enclosed in my orchard. It seems to be well filled with seed. Is it possible that it is a forage grass?—A. L. C., Kingsburg.

This inquiry was referred to the State University and Prof. H. M. Hall answers:

"This is the darnel (lolium temulentum), a European weed which is becoming too common in California although it will probably never become a serious pest. It is poisonous, at least in certain stages, and is known as poison darnel. Fortunately it seldom occupies the ground to the exclusion of other grasses and so gives no trouble on this account. As a forage plant it is undesirable (aside from its poisonous properties); the related Italian ray-grass (lolium perenne var. italicum) may well replace it for this purpose. The darnel is usually found as a weed in orchards or waste places; the ray-grass as a forage plant in meadows and on low ground."

### Potatoes from Seed.

Will you please tell me about potato seeds? I do not mean seed potatoes. Do they look like tomato seeds? How long does it take for them to germinate? If I should plant the seeds in October in a frostless locality, would they grow so I would have the seed potaoes ready to plant the following spring?

I expect to have some seed sent me


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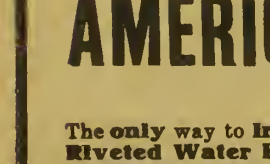
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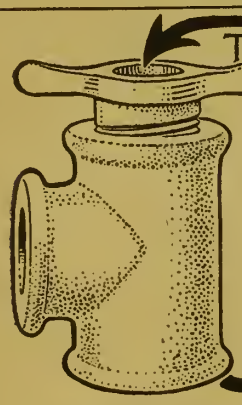
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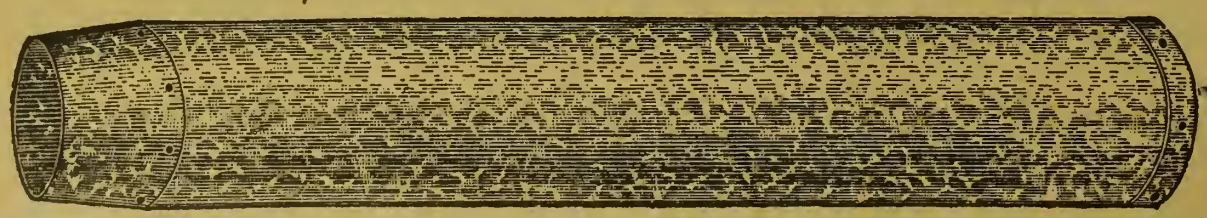
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by mail from Ireland and am anxious to learn the proper way to handle them. As I am very ignorant on the subject, will be very grateful for your information.—M. B. R., Los Angeles.

Growing potato seedlings is one piece of garden work I have never done and must pass this query to some one else.

On general principles I think you would fail by trying to start them on the approach of winter even in the best of California climate. February would be better. And if they grew for you it would likely require the entire summer to produce the tubers. You, of course, understand that you would have a great variety of types from even a single seed ball, and probably not one like the potato upon which the seed grew. It would be interesting work but not profitable.—O. A. L.

* * *

On this point the Cyclopedia of American Agriculture says: "Practically all the new varieties of potatoes, however, are produced from seed, for every seedling is likely to be different from the parent. Seedballs are not produced abundantly on most varieties. If it is desired to produce new kinds, the seed should be saved and treated as tomato seed is treated, being planted the following spring. The first year the plants are small and slender, and the tubers will also be very small. These tubers are saved and planted the next year, when a crop of good-sized tubers may be expected, showing their characteristics. If it is desired to combine features of two varieties, the flowers may be crossed; and the resulting seed will produce hybrids.

### Fertilizer-Stimulant.

I have a ten-acre lemon orchard in a most thriving condition, the soil of which runs mostly to heavy adobe. I have been putting in cover crops of burr clover regularly, which has been of undoubted benefit, also have used commercial fertilizers quite liberally. Now what I wish particularly to know is, would gypsum be more valuable to me under my soil conditions than a commercial fertilizer? I could buy twenty tons of the former at the same cost as five tons of the latter. Would two tons of gypsum to the acre be sufficient under ordinary circumstances? In other words, would the gypsum fill the same requirements as the commercial fertilizer so that a fair comparison could be made? Some writers contend that a commercial fertilizer is merely a "stimulant" to citrus trees and in the end causes positive injury. Is this at all true?—C. R. L., Lemon Grove.

Just what writers may mean as to plant "stimulants" it is hard to conjecture. The word stimulant usually refers to a substance which produces effect upon a nervous system, and as a rule it is conceded that vegetable life has no nervous system. However, we realize that the word when used with regard to plants refers more to increased and accelerated growth. This is brought about in plants by giving to them the elements which they need in the soil and by giving proper mechanical condition to the soil. Bear in mind that the mechanical condition of the soil has perhaps more to do with the health of plants than the actual chemical condition. The application of commercial fertilizer to the roots of the tree, if the soil is lacking in the elements so supplied, can only be beneficial if applied in the right way, in the right quantity, and at the right time. How any writer can maintain that the application of plant food is a positive injury, is a conundrum.

As to comparison of gypsum and fertilizer, that is very hard to make, because they are in no sense alike. Fertilizers are a plant food, and gypsum is not. Gypsum aids in bettering soil conditions, sometimes by liberating plant foods which already are in the soil, especially potash. Where the soil is deficient in available potash, the addition of gypsum will bring about a marked improvement, so that the plant may show material "stimulation" as a result of applying it, when, as a matter of fact, the gypsum contains absolutely no fertility. So while the inquirer, as he says, could buy twenty tons of gypsum for the price of five tons of fertilizer—and he can even do better than that—the gypsum would not take the place of the fertilizer. With the heavy soil in question, we would by all means continue the annual green manure crop, and if necessary apply commercial fertilizer. Let the green crop be plowed in early before it becomes too hard and cover it in thoroughly. An examination of the sub-soil also would determine conditions there that might give a hint as to treatment required. It is possible there may be hardpan. This question is more fully discussed in the leader article this week, and in another article on hardpan conditions which will appear in next week's issue of the Cultivator.

### Farm Plans.

I would like to see discussed in your columns plans for handling acreage to the best advantage, say a farm of twenty acres or even ten. Many farmers are without ideas in regard to the handling of their places, and I think such a discussion in your paper would be of great value to them. Of course I realize that it is difficult to make concrete statements in regard to a subject of this kind, as it is more a question of personal likes or adaptability of each farmer, but this discussion might give ideas and hints that would be most helpful. I have ten acres of alfalfa planted this spring, five acres of Muir and Lovell peaches, a good family orchard, one-half acre of grapes of different varieties, and one acre of land which can be planted to kaffir corn or other feed. I confess I cannot see how much can be made from this place. This perhaps may be from ignorance of procedure.—W. H. F., Denair.

It is possible there is a very good suggestion in the above, but unfortunately California is a state of specialists, that is, in many of the valleys of Southern California, the orchardist will not only settle upon citrus fruits as his entire industry, but will center upon oranges, or possibly upon one variety of oranges, because soil, climate and water conditions favor that particular planting. In another section, for example in part of Orange county, the grower will give his entire acreage to the cultivation of celery. In many sections of the San Joaquin Valley, dairying and alfalfa occupy most of the land, while but a short distance away raisin vineyards may be the specialty.

Notwithstanding these drawbacks to the suggestion of our Denair subscriber, it is probable that some very helpful hints may be brought out. Now then, considering the place of the inquirer. Ten acres of alfalfa surely is going to bring in a fine income. This will be greater of course if he has a number of dairy cows to consume his own product on the place. The five acres of peaches would perhaps have been better planted to clings, in part at least. The canners as a rule prefer the clings, and these if planted would have given slightly more leeway in the disposal of crops. However, local conditions must guide in the determination of this question, and perhaps Muirs and Lovells will lead to better results. The family orchard is a necessity that, we regret to say, many orchardists have neglected and so deprive their families of fresh luscious fruits of their own growing. Excepting for private use, we believe the half acre of grapes should have been planted to one variety. A half acre of grapes in different varieties is so fine a division that we can see no advantage in it unless they be of fine table varieties and the local market is looked to to dispose of them. With the dairy referred to, the acre that can be used for kaffir corn or soiling crops should be one of the most profitable acres on the place. Instead of devoting the entire acre to kaffir corn, it is possible that mangels or pumpkins might make a good variety for the cows. Of course if cows are not kept, then the acre should be devoted to berries or small fruits providing water is plentiful and a market can be secured for the crop.

The suggestion of our subscriber has much merit in it. Let our readers who have succeeded with their places in a variety of fruit products send us suggestions as to their method. It will be very helpful to other subscribers who may be similarly situated.

### Garlic from Seed.

Some time ago I asked advice as to the raising of garlic. Mr. Loblngier replied that "garlic can only be multiplied by planting cloves." I send you one of many plants which


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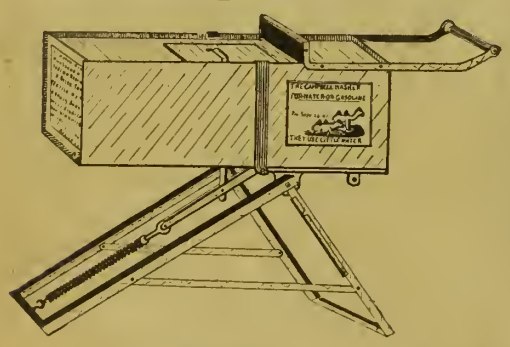

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But where's the peace and comfort that we all had before?
Let's go a-visitin' back to Griggsby's Station—
Back where we ust to be so happy an' so pore!

The likes of us a-livin' here! It's jest a mortal pity
To see us in this great big house, with carpets on the stairs,
And the pump right in the kitchen! And the city! city! city!
And nothin' but the city all around us ever'-wheres!

Climb clear above the roof and look from the steeple,
And never see a robin nor a beech or ellum tree!
And right here, in earshot of at least a thousan' people,
And none that neighbors with us, or we want to go and see!

Let's go a-visitin' back to Griggsby's Station—
Back where the latch string's a-hangin' from the door,
And ever' neighbor round the place is dear as a relation—
Back where we used to be so happy and so pore!

I want to see the Wiggenses, the whole kit-and-bilin',
A-drivin' up from Shaller's Ford to stay the Sunday through;
And I want to see 'em hitchin' at their son-in-law's and pilin'
Out there at Lizy Ellen's, like they ust to do!

I want to see the piece-quilts the Jones girls is makin',
And I want to pester Laury 'bout their freckled hired hand,
And joke her 'bout the widower she come purt' nigh a-takin,
Till her pap got his pension 'lowed in time to save his land.

Let's go a-visitin' back to Griggsby's Station—
Back where they's nothin' aggervatin' any more,
Shet away safe in the woods around the old location,
Back where we ust to be so happy and so pore!

I want to see Marindy and he'p her with her sewin',
And hear her talk so lovin' of her man dat's dead and gone,
And stand up with Emanuel to show me how he's growin',
And smile as I have saw her 'fore she put her mournin' on.

And I want to see the Samples, on the old lower eighty,
Where John, our eldest boy, he was tuk and buried—for
His own sake and Katy's—and I want to cry with Katy
As she reads all his letters over, writ from the war.

What's in all this grand life and high station,
And nary pink nor hollyhock a-bloomin' at the door?
Let's go a-visitin' back to Griggsby's Station—
Back where we ust to be so happy and so pore!

—James Whitcomb Riley.

### A SHARK STORY.

SHARKS, as nearly every landsman knows, are the mortal enemies of sailors. A gale, a hurricane or even a cyclone are accepted by the deep-water men with almost stolid indifference. Their proximity to a ship, even to this day, is always looked upon as an omen of ill luck of some character. So when the cook of the old clipper ship William Prows, which I was commanding 'way back during the early '60s, pointed astern and scowled, and I saw the triangular fin of a huge man-eating shark protruding above the surface of the sea, I must confess to a feeling of uneasiness.

Soon I saw the men "forrid" leauing over the rail at the waist and peering at the wake of the ship. Presently they broke into small groups and fell to discussing the appearance of their dreaded foe.

I was then in the East Indian trade, running between Liverpool and Bombay. We were carrying about twenty passengers home, some of whom were returning from the Abyssinian War, which was then about closing.

The Prows had rounded the Cape of Good Hope in splendid shape and was headed up the east coast of Africa under a heavy spread of canvas in comparatively light breezes when the ominous sign stirred the ship's company.

From the occasional glimpses I got of the shark's flukes and snout I made him out to be a monster of the man-eating species, not less than eighteen feet in length.

I was naturally annoyed at the appearance of our arch enemy, that cast a gloom over an otherwise delightful passage up to that point.

"Shy something at the brute," I shouted to the cabin boy.

The lad picked up a canvas-back steamer chair which an old lady passenger had been using on deck, and hove it in the direction of the shark. After swearing at the boy a few moments for selecting such a missile, I walked to the taffail to see if it had been effective, but the chair was nowhere in sight. Well, that stumped me, as I concluded the shark must surely have swallowed it.

We had some oranges in the cargo, and, thinking that our unwelcome visitor might be satisfied with a mess of such delicacies, ordered a couple of the foremost hands to bring out a box of the fruit from 'tween decks and heave it overboard. To my surprise, the oranges, box and all, disappeared as rapidly as had the chair.

Then, to make the situation more distressing, other fins began to appear in the locality, and soon there was a regular procession of them astern.

Passengers and crew were visibly affected by the incident, and I was at my wits' ends for a method of ridding us of the trailing devils.

The old lady who owned the chair which had disappeared made matters worse by setting up a dreadful clamor for her lost property, and going among the sailors, catechising them for not "shooing the critters away."

She had not been popular with the men from the beginning of the passage, and at no time do they take kindly to the presence of a woman on board ship. Our female passenger's appearance was against her, too, for she was old and weazened, and I thought at times a little daffy. It was not long before rumors reached me that the men "forrid" were referring to her as a witch, and I went below that night with serious misgivings.

At daylight the following morning the cabin boy aroused me with the statement that the old lady was not to be found on board. I went on deck and my first glance was directed astern. The grim parade was still keeping along in our wake.

I had the ship searched from stem to stern, on deck and below, but the

old lady had sure enough sunk out of sight. The members of the crew acted in a very surly manner and I began to suspect that the old lady might have been urged by them to follow the chair and the oranges, for there is no telling to what lengths superstition may carry a sailor. I failed to get much information from them by either threats of keel-hauling or promises of an extra allowance of grog, so turned my attention to the sharks again.

I ordered the big shark hook on deck, and, attaching a line, soon had it trailing astern with a big chunk of pork for bait. Luck was with us and we had not been fishing long when the ho'sun shouted that we had hooked the big fellow.

A tackle was rigged from the main yard, and it did not take long to haul him on board. I ordered a "forrid" and told the men to cut him open and see if there were any signs of the missing passenger in his belly.

Actually dreading that there might be, I went below to await a report. Presently the mate came dashing down the cabin companionway and yelled excitedly:

"What do you think was in that shark's belly, sir?"

"I don't know," I replied in a subdued tone, afraid almost to hear.

"Why, the old woman is a-sittin' there in her old chair a-tryin' to sell oranges to the passengers at a shillin' apiece."

I was greatly relieved, for I knew my mate was a truthful man.—Post-Dispatch.

# About the House

NICE summer stockings should be filled with crumpled tissue paper and hung where the air can blow through them after each wearing. You can clean lace and fine silk stockings by putting them through a bath of naphtha, but the only safe place to do this is out of doors. When they seem clean rinse in clean naphtha and hang in the open air. There is nothing nicer than mending tissue for repairing stockings of silk or lisle thread.

The economical girl launders her own stockings, for they soon fade and their beauty is gone if they are put in the general wash. Stockings will wear much longer if laundered frequently than if allowed to dry moist with perspiration, and if they are only slightly soiled it takes but a few minutes to make them clean and soft again.

Nice stockings of any color can be kept soft without fear of fading, by stirring enough pearline in warm soft water to make a nice lather, and then putting the stockings in and allowing them to remain for ten minutes, then rubbing with the hands.

White stockings are improved by soaking in the suds, but colored stockings must be washed, rinsed, and dried as quickly as possible. When they seem clean rinse through a very light suds and then through clean water. Pull the stockings into perfect shape before they are hung over the line, and before they are quite dry. Press them on the wrong side with moderately hot irons. Some people object to the ironing, but they are much softer and more comfortable to wear if the feet are pressed out smooth.

When childrens' white stockings have become very soiled, a little coal oil should be added to the suds for washing them, and they should be allowed to soak in this suds for an hour before washing them out. If any holes are found in the stockings darn neatly with silk finished cotton. Be careful to run the thread so far on each side of the hole that it will not fray and pull out the goods.—M. E.

### OUR MANLY TRAINING OF GIRLS.

Our training of girls approaches close to the idiotic, claims Katharine Eggleston in Woman's Home Companion for June. The average girl, from the minute she leaves her dolls to go to kindergarten, till she matriculates at college, is told about men and men's work—never about women. The kindergarten songs and tales are about Lincoln and Washington—and even the pictures of animals show the lion and forget the lioness. In older childhood she is taught to build sand forts instead of good old-fashioned mud pies, and even the sums in arithmetic dwell on "Billy's" marbles and "John's" apples, to the total neglect of his sister.

Later still she goes to high school and learns history with all its ideals of brave men—and here again the woman's share of quiet courage is completely overshadowed. She learns carpentering, although she cannot cook an egg or sew a seam. And finally, her education finished, she knows all about the higher mathematics and is short-changed by the butcher. She learns political economy, but doesn't know who are the members of her own school board. Miss Eggleston's bright article concludes:

"If your boy wanted to be a lawyer, and a neighbor told you to put him to work in a carpenter's shop by way of preparation, you would think your neighbor crazy. But you do not consider yourself crazy when you train your daughter, who is to be a wife and mother (and nothing can get away from the grim statistics that women do marry, despite economic independence, the higher education and all other arguments in favor of coeducation), precisely as you train your son, who will enter some profession or trade, there to first earn his own living, and then to provide for a family yet unborn. The one to bear the family and to rear it, the other to provide shelter and comfort for the mother of that family, and yet both trained precisely in the same way."

### WASHING BLANKETS.

Blankets should not be rubbed, and soap should never be rubbed on them. The best way of dealing with them is to have a good tubful of warm water, just warm enough to feel pleasant to the hands, and make it into a good lather by melting in it a cupful of soap jelly made without soda.

Put the blanket in this and let it soak a few minutes, while a second tub, exactly like the first, is prepared. Move the blanket up and down in the suds and squeeze and press it against the sides; then put it in the second tub and place another blanket to soak in the first tub.

Squeeze the blanket in the second water and when it looks clean rinse in clear warm water being careful to get the soap well out. Each lather will probably serve for two or three blankets, but it is most important that the water should be clean.

The good color of blankets depends very much on the cleanliness of the water in which they are washed. On no account wring the blankets tightly; to do so would spoil the nap.—Ex.

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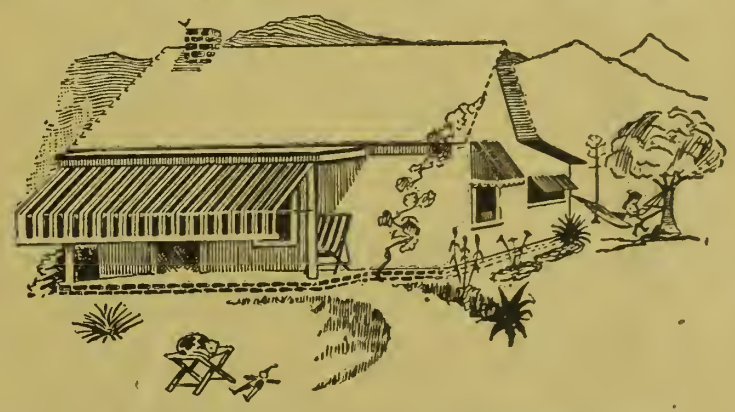

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# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, July 14, 1909.

### Butter.

Extras have finally advanced and now stand at 60, or 2½ cents in advance of last week.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

Creamery per roll .....55@60
Cooking ..... 23¾

### Cheese.

Southern California Anchor .....19
Northern fresh .....17
Anchor Young America .....20
Domestic Swiss .....20
Imported Swiss .....30

### Eggs and Poultry.

Eggs continue to advance with extras commanding readily 32 cents. Case counts also have advanced two cents.

Paying price f. o. b. L. A. are:
Eggs .....30@32
Case count buying price .....27

Dealers pay for live poultry f. o. b. L. A.:
Hens per pound 3½ up .....13@14
Stags and old roosters .....7
Fryers 2 to 2¾ lbs .....15@16
Broilers 1¼ to 2 lbs .....15
Broilers 2 lb .....19
Roasters 3 lbs and up .....20
Turkeys .....20@23
Geese .....13
Ducks .....12@13
Squabs .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds.....7½
Prime steers .....4@4¼
Heifers .....3½@3¾
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.25@3.50
Wethers .....4.50@5.00

### Potatoes.

Wholesale prices are:
Sweets per box .....3.50
New per lbs .....6@8
Early Rose local .....1.25
Burbank local .....1.35
New per cwt .....1.25@1.50

### Onions.

Wholesale quotations:
Coachellas crates .....75
Coachellas sacks .....1.25
Silverskins, local .....75@1.00

### Vegetables.

Artichokes locals .....75
Asparagus .....8@9
Beets per sk .....1.00
Beans string .....2@3
Bell peppers .....15
Cabbages per sack .....40@50
Celery per doz .....1.10@1.35
Chili per lb .....25
Chili dried .....9@10
Cucumbers per box .....25@35
Caullflower per crate .....1.25
Carrots per sk .....1.00
Corn per sack .....50@70
Egg plant .....8@10
Green onions per doz bunches ..15@20
Horseradish per lb .....12
Summer squash per box .....15@25
Lettuce choice .....50@75
Mushrooms per basket .....3.00
Oyster plant .....50
Peas per lb .....4@6
Parsley doz .....20@40
Parsnips .....15@20
Rhubarb Northern per box .....2.00
Rhubarb Crimson Winter .....85
Radishes per doz .....15@20
Spinach per doz .....15@20
Turnips sk .....75@1.00
Tomatoes crate .....75@1.00

### Citrus Fruits.

Navels .....1.25@2.50
Valencias .....2.50@2.75
Grapefruit .....2.00@3.00
Lemons .....2.50@5.00
Unpacked .....1.00@1.35

### Fresh Fruits.

Wholesale prices on the market are:
Apricots per crate .....25@35
New apples .....50
White Astrachan .....2.00
Red Astrachan .....1.25
Alexanders .....2.00@2.25
Cherries black .....75@85
Cherries per lb .....2@5
Currants .....60
Figs .....1.00
Grapes 4 basket crate .....1.10@1.50
Gooseberries .....10
Loganberries .....3
Loquats per lb .....3
Peaches box .....60@85
Pears .....1.75
Plums .....1.00@1.25
Prunes .....1.00@1.20
Raspberries .....4@5
Blackberries .....3@4
Strawberries .....3@4
Watermelons per lb .....1@2

### CANTALOUPES.

Cantaloupes ponies .....1.75
Standards .....2.00

### Dried Fruits.

Wholesale prices are:
Apricots .....8@9
Evap apples fy per lb .....10@11
Figs loose .....5
Peaches .....5@6
Pears .....9
Plums pitted .....8@9
Nectarines .....7½@9
Prunes .....7@8

RAISINS—Muscatels, 2-crown, loose, 50-lb. boxes, lb., 3½c; do., 3-crown, 4c; do., 4-crown 5c; sultanas, bleached, lb., 9c; do., unbleached, 3½@4c; new seeded raisins, 16-oz. packages, 6c; do., 12-oz. packages, 5c.

### Beans Dried.

Wholesale prices are:
Pink No. 1 .....3.75
Limas per ctl .....4.50
Black eyes .....3.50
Lady Washington .....5.50@5.75
Small White .....6.50@6.75
Garvanzas .....4.00@4.50

### Nuts.

Almonds IXL per lb .....15
Pecans polished .....15@17
Peanuts California .....5
Walnuts No. 1 .....12@13
Walnuts No. 2 .....9@10

### Honey.

Wholesale quotations:
Extracted water white .....7
Extracted Light Amber .....5½@6
Comb Water White .....15
Comb white .....14
Beeswax .....25

### Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:
New Barley hay .....9.00@13.50
New alfalfa local .....12.00@12.50
New alfalfa Imperial .....10.50@11.50
Wheat hay .....13.50
Tame oat .....14.50@15.50

### Grains.

Wholesale selling price f. o. b., Los Angeles:
Wheat new per ctl .....2.35@2.40
Kaffir corn .....2.00
Corn Eastern bulk .....1.95
Egyptain corn .....1.85
White oats .....2.25
Seed Rye .....2.00

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn .....2.00
Shorts .....1.95
Bran .....1.70
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....2.50
Feed meal .....2.05
Cracked wheat .....2.50
Rolled Barley .....1.60

## San Francisco Markets

SAN FRANCISCO, July 13, 1909.

### Butter.

Butter has taken a sharp advance and the market is firm at present quotations.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:
California extras per lb .....28
California firsts .....27
California seconds .....25½
Packing .....22½

### Cheese.

California flats .....12@13½
Cal Young America fy .....14½@15½
Young American Oregon fy .....15½

### Eggs and Poultry.

Eggs show a 3 cent advance during the week with brisk sales for all stocks offercd.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:
Fresh ranch .....21½@29½
Hens per doz .....4.00@8.00
Roosters .....4.00@10.00
Fryers per doz .....5.00@6.50
Broilers .....2.50@4.00
Geese per pair .....1.50@2.00
Ducks young .....5.00@8.00
Pigeons young .....1.00@2.00

### Live Stock.

San Francisco prices gross weight:
Steers .....3@4
Cows and heifers .....2@3½
Hogs .....4@7½
Calves per lb .....3½@5
Milk lambs .....4¾@5
Wethers No 1 .....4
Ewes No 1 .....3½

### Potatoes.

Wholesale market quotations:
River white fy sacks .....1.25@1.40
Sweets per crate .....1.50@2.00
Oregons Burbanks .....1.50@1.75
Salinas .....1.90@2.00
New crop .....1.10@1.30

### Vegetables.

Wholesale quotations:
Asparagus per box .....75@2.00
Bell peppers per box .....1.00@1.25
Brussels sprouts per lb .....3@5
Cabbage per box .....2.00@2.25
Cauliflower doz .....75@1.00
Carrots per sk .....65@75
Cucumbers per box .....50@1.00
Chili peppers per bx .....90@1.00
Corn per sk .....1.50@3.00
Egg plant per lb .....5
Green peas per sk .....1.25@1.50
Onions green per box .....50@60
Rhubarb per box for bay .....1.00@1.25
Squash per box .....25@75
String beans .....3@5
Tomatoes Cal .....40@50
Wax Beans .....3@5

### Onions.

New red per sk .....25@40
Yellow .....75@85
Silver skins .....75

### Citrus Fruits.

Valencias .....2.50@3.25
Grapefruit .....1.50@3.00
Lemons .....2.50@5.50
Limes .....5.50@6.00

### Fresh Fruits.

Apricots box .....65@75
Apples new green .....75@1.50
Blackberries chest .....2.00@3.00
Crab apples .....75@1.00
Cherries loose black per lb .....3@6
Cherries Royal Anne .....3@5
Currants per chest .....4.00@5.00
Figs blk box single layer .....50@60
Grapes Sweetwater .....1.00@1.25
Grapes seedless .....1.00@1.75
Gooseberries per drawer .....40@50
Logans per chest .....2.00@3.00
Malindas per chest .....2.00@3.00
Cherry plums per box .....25@35
Peaches per box .....65@75
Plums boxes .....25@40
Plums Tragedy .....60@75
Pears .....75@1.50
Longworth per chest .....4.00@6.00
Nutmeg melons ponies .....1.75@2.00
Nutmeg standards .....2.00@2.50
Pineapples per doz .....3.00@6.00
Pears box .....75@90
Raspberries per chest .....3.00@5.00
Watermelons per lb .....1@2

### Dried Fruits.

Prunes 4-size basis .....2½
Santa Clara .....2¾
½c premium for larger sizes
Apricots per lb .....8¼@10
Peaches—Choice ...4; Fancy ...6@7½
Apples evap .....5@7½
Pears .....5@8½
Figs .....2½@4
Nectarines .....5@6
Pitted Plums .....7@8

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do, No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12, 3¾c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached, 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

Walnuts soft shell .....9½
Hard shell .....6@8½
Ne Plus Ultra .....10½
Almonds Nonp .....11½
Pecans .....15@17
Chestnuts .....2@10
Peanuts .....5@6
Pine nuts .....22½@25

### Beans Dried.

Limas .....4.20@4.25
Pink .....3.10@3.20
Small white .....6.50
Large white .....5.25@5.40
Black eyes .....3.35@3.50
Red kidneys .....3.60@3.70
Garvanzas .....2.75@3.00
Bayo .....5.00@5.25
Horse beans .....2.00

### Hops.

Hops 1908 crop .....6@10
Old crop .....2@6
1909 crop contracted for at .....12@15

### Honey.

White comb .....15@16
Light Amber .....9@10
Extracted W W .....7@8
Extracted light amber .....6@7½
Beeswax per lb .....24@28

### Hay.

Scott & Magner Say: Arrivals of hay for the week have been 330 tons. There has been no particular change from the conditions that have prevailed here for some two weeks past. The market has continued dull for the reason that the demand is decidedly moderate. None of the large consumers who generally lay in a winter stock, have come into the market to buy as yet, as they consider the prevailing prices too high to make any extensive purchases.

There has been very little fancy wheat hay offered, as this type of hay is mainly going into warehouses in the country for storage purposes; therefore fancy wheat hay during this week has been sought for, and that article is exceptionally firm.

Export Trade is very light, as there has been very little hay moving on that account for some time past.

Alfalfa hay is in moderate demand, and although very little has been coming in of this type of article, there has been plenty to supply all requirements of the trade, and the market remains fairly steady, but not active.

This week's quotations are:
Choice wheat hay .....17.50@18.50
No 1 wheat or wheat & oat 16.00@17.00
No 2 wheat or wheat & oat 14.00@15.50
Choice tame oat .....16.50@17.50
Other tame oat .....13.00@14.50
New crop wild .....12.00@15.00
Stock hay .....7.00@9.00
Alfalfa .....10.00@14.00
Straw .....60@75

### Grains.

Wheat No. 1 .....2.07½@2.12½
Barley .....1.42½@1.45
Oats white .....1.90@2.15
Oats gray .....2.00@2.10
Rye new crop .....1.40@1.45
Corn Egyptain .....1.60@1.65
Corn Cal sm round .....1.80@1.87½
Alfalfa seed, Cal .....16@18
Mustard yellow .....5¾@6
Mustard brown .....3¾@4½
Millet .....2½@3
Broom corn seed per ton .....28.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton .....39.00@40.00
Cracked corn per ton .....40.00@41.00
Rolled barley per ton .....31.00@32.00
Rolled, oats per ton .....36.00@39.00
Oil cake meal per ton .....38.50@40.00
Cocoanut cake per ton .....25.00@26.00
Middlings .....33.00@35.00
Mixed feed per ton .....26.00@30.00
Shorts .....31.00@32.00

## Deciduous Market

The fore part of the week there was a decline in the market in all varieties, which is a general thing after the Fourth of July trade is over. However, the market has picked up very well, and there is a good demand for peaches and plums. The auctions yesterday averaged as follows:

Tragedys $1.25 to $1.60, Royal cots $1.15 to $1.70, Burbanks $1.05 to $1.25, Hales 60c to $1.05, Barts $3.00 to $3.45, St. Johns 60c to $1.25, Ogons 90c to $1.45, California Red $1.10 to $1.65, Botans 95c to $1.05, Triumph 75c to $1.00, Purple Duanes $1.05 to $1.25.

The principal varieties of plums going out now are Burbanks, Purple Duanes, Satsumas, Climax, Tragedys. There is a good demand in the East, however, for all plums with the exception of Burbanks which are somewhat a drug on the market owing to the large amount that has been shipped.

The principal varieties of peaches now going out are St. Johns, although these are cleaning up, and Early Crawfords are taking their places. The cash price to growers is 45c for Crawfords although they are being quoted to the trade at 65c to 75c f.o.b.

Shipments of pears from the State at present are heavier this year than they have been any other year at the same date; 41¼ cars being shipped yesterday as compared with 21¼ cars same date last year. The f.o.b. price is 1.50, and they seem to be moving very freely at this figure.

The whole outlook is very promising at the present time as there is a good demand for yellow peaches, pears and plums. The undesirable varieties of peaches are all shipped.

Total shipments to July 9th, 1908, 1,542 cars; total shipments to July 9th, 1909, 1,596 cars.—T. C. Tucker.

## Citrus Market

LOS ANGELES, July 14, 1909.

The market has not improved on sweets and seedlings but the output is practically all forwarded. There are possibly 3500 cars of Valencias yet to go. The outlook for these is encouraging. The present indications are even better than last week. Most of the fruit is of high quality and the trade is receiving it as fast as offered.

The estimates of next year's crop are still more or less of guesswork, but more definite ideas are being expressed than during June when most discouraging reports were given out. Some growers then maintained that next year's output would not be over ten per cent of normal. Present estimates are ranging from fifty to seventy-five per cent of the normal crop. If this is the case it is probable the prices secured will compensate for the shortage.

The cooler weather and larger receipts of foreigns have lowered prices on lemons somewhat, but they are still commanding fair returns and indicate a determination to continue the good prices during the season.

### Shipments.

Shipments of citrus fruit since November 1st, 32,701 cars of which 27,947 were oranges and 4,754 lemons. To same date last season, 26,221 of which 22,596 were oranges and 3,625 lemons.

NEW YORK, July 12.—Thirty-six cars oranges and three cars lemons

sold. Market easier on both oranges and lemons. Clear and hot.

| NAVELS— | Average. |
|---|---|
| Swastika L V W Brown | 2.75 |
| Victoria AH Exchaneg | 2.45 |
| Sugar Loaf AF Highgrove | 2.40 |
| Highgrove AF Highgrove | 2.05 |
| Champion A C Denman Sons | 3.75 |
| Climax E Peycke Co | 2.70 |
| Elephant OG Cash Association | 3.00 |
| California Sunshine OK Cash Assn | 2.50 |
| Plain Ends OG Cash Asso | 2.15 |
| Premium Benchley Fruit Co | 3.70 |
| Magnum Bonum J A Maddock | 2.90 |
| La Loma J A Maddock | 2.55 |
| Cotton Tail | 2.20 |
| Old Mission C C Chapman | 5.00 |
| Golden Eagle C C Chapman | 2.95 |
| La Verne Heights La Verne H | 2.85 |
| Choice La Verne Heights Pack Co | 2.60 |
| Orchard National Orange Co | 2.45 |
| Standard National Orange Co | 2.10 |
| Hiawatha TCC Porterville | 2.40 |
| Stag ACG Exchange | 3.25 |
| Lake Hemet AF Exchange | 2.55 |
| Mission Indian AF Exchange | 1.95 |
| Alta Cresta AH Exchange | 2.85 |
| Robusta AH Exchange | 2.45 |
| Iris DM Exchange | 3.25 |
| Captain SA Exchange | 3.05 |
| Alhambra ST Exchange | 2.40 |
| Planet SS Exchange | 2.60 |
| SWEETS— | |
| Ocean Speich & Co | 2.20 |
| Success Speich & Co | 1.65 |
| Chess Queen Ely Gilmore Fruit Co | 1.60 |
| State Seal J D Carpenter | 1.40 |
| Blue Mountain P & McKevitt | 1.60 |
| Native Sutherland Fruit Co | 1.35 |
| Mayflower R J Richardson | 2.15 |
| Buena R J Richardson | 1.75 |
| Independent Growers' Fruit Co | 1.95 |
| Red Globe Riverside Ex Riv | 1.60 |
| California Orange Riv E Riverside | 1.40 |
| Sugar Loaf AF Highgrove | 1.50 |
| Highgrove EF Exchange | 1.25 |
| Silver Leaf AF Exchange | 1.25 |
| Tiger SB Colton | 1.70 |
| SEEDLINGS— | |
| Robusta AH Exchange | 1.75 |
| La Mesa Riverside Exchange | 1.40 |
| Golden Riverside Exchange | 1.20 |
| Red Globe Riverside Ex Riv | 1.65 |
| La Mesa Riverside Ex Riverside | 1.40 |
| Blue Print Riverside Exchange | 1.65 |
| Red Print Riverside Exchange | 1.40 |
| Titus Ranch San Marino GPA | 1.90 |
| El Toreador San Marino GPA | 1.60 |
| Carnation M & Greene Co | 1.55 |

ST. MICHAELS—Blue Mountain, $2.05; Champion, $2.30; Mayflower, $2.30; Buena, $2.20; Sweetheart, $2.35; Stork, $2.25; La Mesa, $2.15. HALVES—Sweetheart, $1.15.

GRAPEFRUIT — Mayflower, $2.25; Buena, $1.25; Orchard, halves, $1.75; Cerrito, halves, $1.50; Champion, boxes. $3.15; Champion, halves, $1.90; Blue Globe, halves, $2.40; Blue Globe, $2.35; Primrose, $2.05.

LEMONS — Camel, $1.85; Justrite, $2.80; Minerva, $2.55; Flower, fancy, $2.70; choice, $2.20; Primrose, $2.05.

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CLEVELAND, July 12.—Three cars Valencias, one seedling, three lemons and two mixed, sold. Higher on oranges, very strong on lemons. Weather hot.

VALENCIAS—Palm Tree, A. H., Prenda, $2.20; Royal Knight, R. H., $2.95; Newsboy, R. H. Exchange, $1.85; Alhambra, St. E., A-1, $2.95. SWEETS—Tiger, S. B., Colton, $2.15; Floral, $1.60; Pansy, $1.65; Golden Strand. $1.10.

LEMONS—Whittier, S. T. Exchange, $5.05; Pico, $4.70; Hillsidegom, Loveless Fruit Co., $5.70; Palomar, $5.00; Arab, S. A, Exchange, $5.80; Greyhound $5.60; Duck, $5.60.

---

BOSTON, July 12.—Six cars sold. Cloudy, muggy. Market unchanged.

| NAVELS— | Average. |
|---|---|
| Yankee Doodle AF Highgrove | 1.40 |
| Standard Growers' Fruit Co | 1.25 |
| Independent Growers' Fruit Co | 1.75 |
| VALENCIAS— | |
| Rey ST Fernando | 2.30 |
| Yankee Doodle AF Highgrove | 1.55 |
| Tunnel ST Fernando | 1.70 |
| SWEETS— | |
| Queen Bee QC Corona | 1.45 |
| Floral SB Colton | 1.25 |
| Tiger SB Colton | 1.35 |
| Eagle AF Highgrove | 2.20 |
| ST. MICHAELS— | |
| Queen Bee | 2.30 |
| Royal | 2.00 |
| Yankee Doodle AG Highgrove | 1.65 |
| Eagle | 1.75 |

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CINCINNATI, July 12.—Three cars oranges, three cars lemons sold. Market weak on oranges, advancing on lemons. Hot.

LEMONS—Pet SA Ex $4.55; Arab, $4.95; Duck, $4.20; Silence, Flagler Ft Co $4.00; Cry Baby $4.45; Tourist $3.95; Beach $3.65.

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PITTSBURG, July 12.—Eighteen cars sold. Market firm on good fruit, continues very much depressed on poor stock oranges. Easier on lemons, hot and muggy.

| VALENCIAS— | Average. |
|---|---|
| Aster | 2.10 |
| Monogram C C Union seconds | 2.35 |
| El Toro California Citrus Union | 2.45 |
| Turquoise California Citrus Union | 2.15 |
| Iris DM Duarte | 3.15 |
| Greyhound SA Exchange | 2.80 |
| El Vaquero California Citrus Union | 2.75 |
| Halo California Citrus Union | 2.95 |
| Ruby California Citrus Union | 2.00 |
| Stock Label TCC Porterville | 1.60 |
| Violet DM Duarte | 2.75 |
| Jasmine DM Monrovia | 2.70 |
| LEMONS— | |
| Housewife Riverside Ex Arlington | 3.65 |
| Gold Buckle RH East Highland | 4.90 |
| Housewife, Riverside Ex Arlington | 4.00 |
| Belt RH Ex E Highland | 4.15 |
| Aster California Citrus Union | 4.20 |
| Highlander High FGA | 5.20 |
| ST. MICHAELS— | |
| Halo California Citrus Union | 2.70 |
| El Toro | 2.25 |
| Volunteer SA Exchange | 2.55 |
| SWEETS— | |
| Searchlight SS Orange | 1.50 |
| Red Globe Riverside Ex | 1.35 |
| Big R SB Rialto | 1.60 |
| Owl OK Exchange | 1.15 |

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ST. LOUIS, July 12.—Hot and muggy. Market weak on small size oranges, strong on small size lemons. Eight cars sold.

| VALENCIAS— | Average. |
|---|---|
| Pet SA San Dimas | 2.40 |
| Camellia Redlands MO Co | 3.00 |
| Navajo AH Casa Blanca | 2.25 |
| Blossom Redlands MO Co | 2.25 |
| SWEETS— | |
| Arab SA San Marino | 1.60 |
| Camellia Redlands MO Co | 1.50 |
| Lincoln AH Casa Blanca | 1.65 |
| Blossom Redlands MO Co | 1.10 |
| ST. MICHAELS— | |
| Navajo AH Casa Blanca | 1.65 |
| Tally-ho SB Rialto | 1.90 |
| Big R SB Rialto | 1.60 |
| LEMONS— | |
| Troubadour AH Ex Arlington | 3.70 |
| Commercial AH Ex Prenda | 4.20 |

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PHILADELPHIA, July 12.—Three navels, three seedlings, three Valencias, five mixed, one lemon sold.

| NAVELS— | Average. |
|---|---|
| Cluster SA Exchange | 80 |
| Owl OK Exchange | 90 |
| Stork SA Exchange | 1.05 |
| Native Sons King Fruit Co | 90 |
| Quail OK Exchange | 90 |
| King Leo SA Exchange | 80 |
| Independent Growers' Fruit Co | 1.15 |
| VALENCIAS— | |
| Aurora E Peycke Co | 2.65 |
| Orchid Atland Fruit Co | 2.10 |
| Salt Lake King Fruit Co | 1.85 |
| Majestic C S Spencer | 2.40 |
| Climax E Peycke Co | 2.05 |
| Buscada Atland Fruit Co | 1.75 |
| SWEETS— | |
| Quail OK Exchange | 1.80 |
| West Highland Cleghorn Bros | 1.20 |
| Highgrove AF Highgrove | 1.20 |
| Native Sons King Fruit Co | 1.00 |
| SEEDLINGS— | |
| Selected N W Blanchard | 1.25 |
| Plain Ends N W Blanchard | 90 |
| California Orange (budded) | 1.30 |
| Sugar Loaf | 1.60 |
| GRAPEFRUIT— | |
| Golden Flower Redlands GO Assn | 1.00 |
| West Highland Cleghorn Bros | 55 |
| ST. MICHAELS— | |
| Golden Flower | 2.20 |
| West Highland | 2.00 |
| Sugar Loaf | 1.95 |
| Highgrove | 1.90 |
| LEMONS— | |
| Homer QC Corona | 2.70 |
| Camel | 1.85 |
| Blue Keystone King Fruit Co | 3.30 |
| Stock Label | 2.90 |

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## QUERIES.

(Continued from Page 67.)

show plainly that garlic grows seed too. I have now given up farming and have not time to watch results from planting seed.—J. G. Baum, Olive, Orange Co.

Courtesy Calexico Chronicle.
**Imperial Vineyards.**

In referring to my answer to the garlic query my language reads, "Garlic is propagated by division of the bulbs called cloves or sets." If I have anywhere written what your correspondent asserts, it was certainly a slip. While it is common knowledge that garlic will seed like the onion, it is the universal practice, so far as I have ever seen, to propagate it by division.—Q. A. L.

### Market Reports.

I would like to know why there is such a difference in price of spuds in market quotations and price offered by buyers. We are offered from ninety cents to a dollar. The buyers are robbing the growers, or the quotations need revising, as there should not be such a difference in prices.—Subscriber, Olive.

It is true the producer cannot usually secure the prices quoted in the Cultivator. It is also true that the writer cannot go to the market and buy for the quoted prices unless it be in the one case of local Burbanks quoted last week, which was really perhaps above the market price. This is because with freight and commission charges, and various juggling with the products, there is a vast difference between prices received by the producer and paid by the consumer. Of course occasionally there is a possibility of error in quotations, i. e., a line quoted one week may be allowed to remain over the week following through inadvertence, but as a rule the prices quoted in the Cultivator show the general range of the market. This is a matter which never can be corrected until the producers are organized and have a man qualified to handle their interests located in the markets where he can watch and secure honest returns from those who buy in a large way.

---

### Yellow Jackets.

In a recent issue of the best paper in the State, J. S. of Morgan Hill asks what to do with yellow jackets; and I am glad to pay back some of the favors I have received.

Take bits of fresh raw meat, gristle or bones with some meat adhering may be used, and either tack them to boards which are laid meat-side down across the tops of tubs half full of soap suds, or hang the meat above the suds with a string. The yellow jackets are very eager for meat, and will fight and jostle each other off the small bits exposed; the fellow who falls drops in the soap-suds; that gums his wings so he can not get out and he speedily drowns. The bits of meat should not be too large, and the water must be soapy, as they can get out of clean water. It is some trouble to renew the traps every morning, but the results more than justify the labor.—Bee Josephine O'Mealey, Kanova Ranch, Anderson.

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# Veterinary

Answers in this column by Dr. R. T. Whittlesey, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Heaves.

What is a good remedy for the heaves? My horse has them very badly, brought on, we think, by feeding alfalfa hay. We are feeding grain now.—H. H., Burbank.

There is no cure for the heaves. Feed a concentrated diet, less hay and more grain. Dampen the hay and put a small piece of lime in the drinking water.—R. T. W.

### Eye Trouble.

What is the matter with my horse's eye? She holds it half shut and there is a small white spot like a growth in the lower corner of the eye. It does not water.—D. R. M., Compton.

Get the following preparation and use it in the eye. Inject a few drops with a curved medicine dropper five or six times daily. Adrenolin two drams, water sufficient to make two ounces.—R. T. W.

### Poor Teeth.

For about six weeks my horse has not been eating well. Doesn't want anything but barley. Is growing thin, moves about the corral slowly, and drips saliva from his mouth all the time.—F. C. T., Santa Ana.

Have his mouth washed out every day with the hose. Feed alfalfa hay and have his teeth attended to by a good dentist.—R. T. W.

---

**DR. WHITTLESEY'S VETERINARY REMEDIES.**

These are not ordinary mixtures but are from well tried formulas, used in an extensive practice in Southern California for nearly a quarter of a century. Dr. Whittlesey's Sulphur Arsenical Salve for deep fistulous or ordinary chronic, indolent sores such as, "Poll Evil," "Fistulas," "Quitters," "Thrush," "Scratches," "Warts," "Collar sores" or "Sit-fasts." $1.00 per package postpaid. Printed directions. Dr. Whittlesey's Antiseptic Healing Powder. Forms a coating over raw surfaces, excludes air, flies and floating germs. Makes a cheap and convenient dressing for the many sores that occur to stock on the ranch. $1 full pound can postpaid.

DR. R. T. WHITTLESEY.
Veterinary Hospital, 714 East Seventh St., Los Angeles, Cal.

60 H. P. Western Pumping Plant

# A Frequent Mistake

made by engine buyers is to suppose that one engine is as good as another, the only difference being in the price. Certainly, many engines can be bought for less money than the WESTERN and this fact sometimes leads the prospective purchaser to the conclusion that to buy a low-priced engine will be an economy. This is not so. The one essential of an economical engine is that it shall give the maximum service for the minimum expenditure. If it is cheapened to a point where it fails to do this, any money put into it is an extravagance.

In the WESTERN every detail of design and construction has been to reduce the fuel and maintenance cost to the lowest possible figure. That we have succeeded is being constantly proven where our engines are installed alongside other makes, doing the same work, under the same conditions, developing **more** power, with **less** fuel.

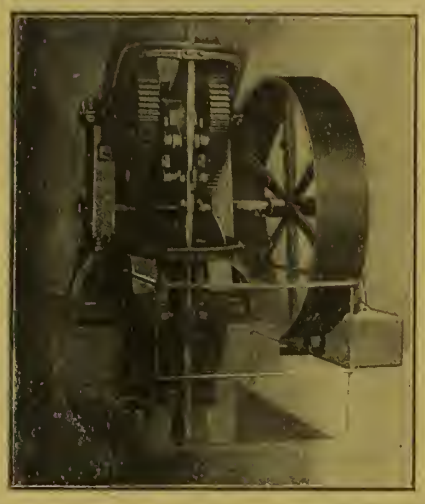
Write for Catalogue.

Have you heard of the Nix-Frost Crude Oil Gas Producer? It's "The Cheapest Power on Earth."

## Western Gas Engine Company

**Northern Branch: San Francisco, Cal.** **Los Angeles. Cal.**

# The Smooth Running, Noiseless Pomona Deep Well Pump



It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.

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# Latest Deep Well Turbine Pump

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

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## The Little Wonder

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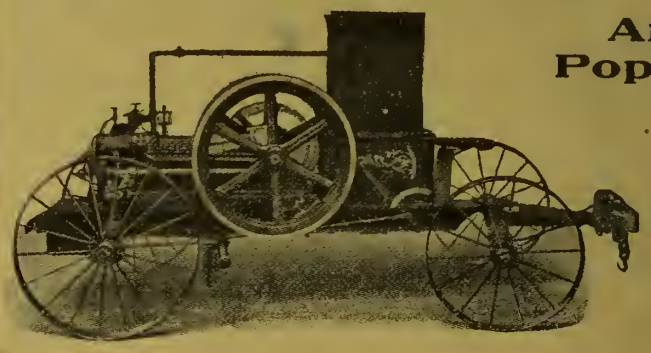

**Are Popular**

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**Because** Guaranteed to develop 10% in excess of rated H. P. Rigid construction and moderate weight. **Costs Less** than others not as good. Balanced centre crank prevents Vibration—most modern and effective cooling system. **We Believe** an inspection will convince you that the Lambert Portable Engine is far superior to any on the market, and we have made a price to get the business.

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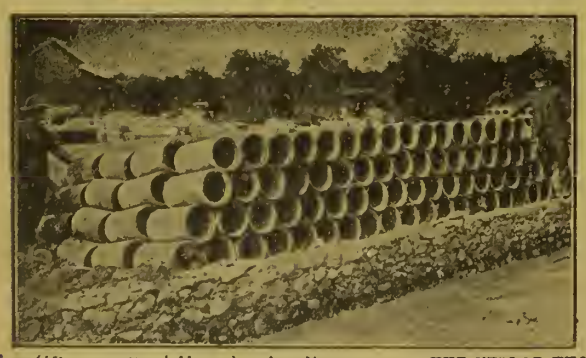

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made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

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An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list

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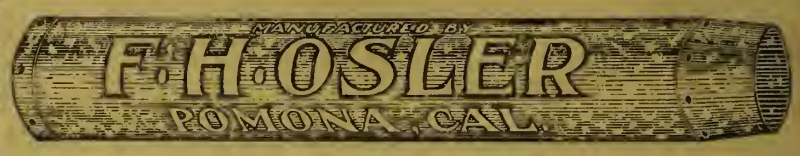


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Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

## Western Machinery Company

**230 Main Street, San Francisco, Cal.**

California Cultivator

Published Weekly One Dollar a Year

Los Angeles July 22, 1909 San Francisco

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**Now then—Let us send you samples, a copy of our 32-page Roofing Booklet and name of our nearest agent.**

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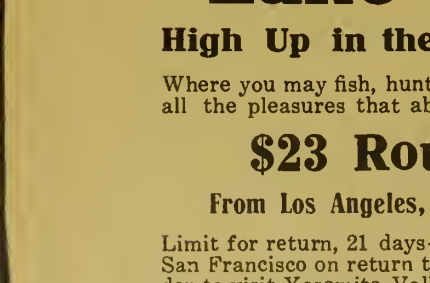

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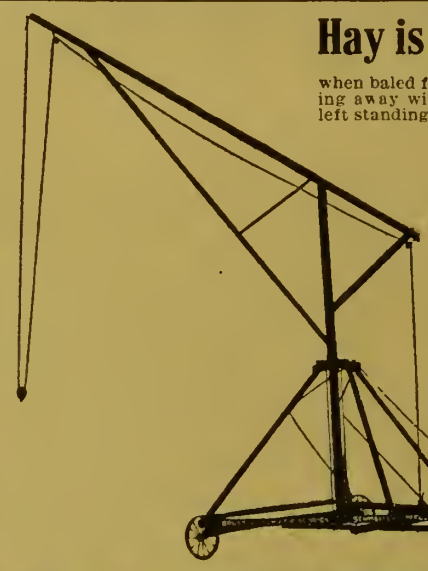

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when baled from the stack than out of the shock, besides doing away with the great loss in weight which results when left standing in the shocks. With the

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hay can be stacked for 15c per ton, therefore when hay is baled 85c per ton is gained by stacking, to say nothing of the saving in weight. The DERRICK is worth its cost alone for loading hay when baled.

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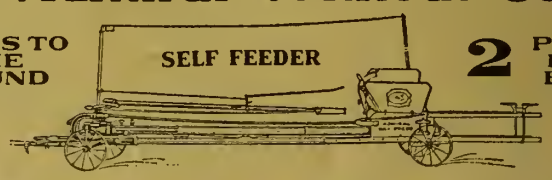


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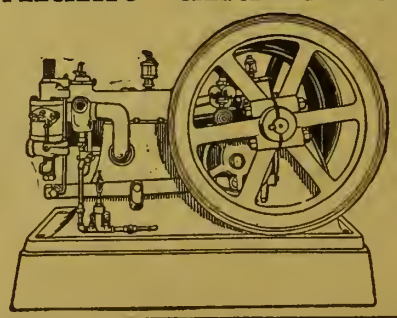

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# California Cultivator

Vol. XXXIII—No. 4 Los Angeles, California, Thursday, July 22, 1909 Subscription $1 a Year


# The Latest Regarding the Thrips

## An Advance Report by Dudley Moulton of the Work of Department Specialists in Studying the Life Habits and Control of the Thrips

THE problem of controlling the pear thrips has become a very acute and important one in many of the deciduous fruit sections in California, and although the insect seems hard to control it has now been shown conclusively that this insect can be checked by proper and careful treatment. It has been well demonstrated that plowing and otherwise cultivating the ground during October, November and December, when the insect is in the pupal condition, reduces its numbers very noticeably, and also that spraying with a combination of Distillate Oil Emulsion and Tobacco Extract, when the thrips are on the trees will kill a very large percent, practically all of those which may have escaped the earlier treatment.

Cultivation and spraying, it will be found, are both so directly subject to weather conditions (and each must be done at its own proper time to be effective), that orchard work such as pruning and spraying for other insects must be considered well beforehand and completed or so arranged that they will interfere but little with the treatment for thrips. Forethought and carefulness of work, it will be found, are most important factors if the treatment is to be entirely successful.

**Life History.**

The life history of the pear thrips in brief is as follows: Adults begin to appear about the 15th of February, although a few individuals may have come up earlier than this; they are numerous after the 18th and by the 25th they are common everywhere. They continue coming up from the ground in maximum numbers between February 18th to March 16th. At this later date practically all are out. A few individuals may come out even as late as March 30th, but these are of no consequence.

The adult thrips feed in the opening fruit buds, in blossoms, and on foliage for a period of about 5 to 6 weeks. They begin to place their eggs about March 15th and this period of oviposition continues until about April 10th. The adult insect is furnished with a saw-shaped ovipositor with which she first cuts an incision into the tender leaf or blossom stem and then forces an egg down into the plant tissue. The adults die after oviposition is concluded. The egg is at all times protected and can not be reached by spraying.

The larva hatches after about 4 days and comes out through the cut in the plant tissue through which the egg was passed when it was laid. The larva feeds for about 3 weeks and then drops to the ground and penetrates down several inches. It encloses itself in a little earthen cell, enters into a resting condition and remains here until it comes out in the following February or March. The insect thus remains in the ground for about 11 months.

The period when thrips larvae are dropping from the trees and entering the ground continues from about April 10th to 30th and all have left the trees by the 8th or 10th of May.

**In the Soil.**

Many careful examinations of soil from under trees in infested orchards have been made to determine the depth to which the thrips lavae penetrate before they locate permanently. With ordinary conditions of cultivation it has been found that about 80% of the thrips are within 8 or 9 inches of the surface and within reach of the plow although previous conditions of cultivation and the texture of the soil regulate the depth to which thrips penetrate to a very large degree. In one orchard 74% of the thrips were between the surface and 6 inches deep, 88% down to 7 inches and 94% between the surface and 8 inches. In a second orchard 71% were within 8 inches and 81% within 9 inches of the surface. In a third orchard 75% were within 8 inches and 80% within 9 inches of the surface. The insect passes through its pupal development during October, November and December within its little cell in the ground and it is then more sensitive to mechanical injury than at any other time of the year. Our method of plowing followed by harrowing, and a second cross-plowing, followed by careful harrowing or cultivation in October, November and December, or after the first early rains, breaks the most of these thrips from their protecting cells and usually so injures them that most will die. By actual tests it has been found that from 70 to 73% of all the thrips in the ground may be thus killed by the plowing method alone.

This treatment is not sufficient, however, to protect the trees if the infestation is bad, and spraying in March and April should also be adopted in conjunction with the plowing.

**Sprays.**

Spraying for thrips has proven wonderfully successful wherever proper sprays have been used and the work done immediately on time and with thoroughness and care. Indifferent and careless work or improper sprays are not effective. The thrips must first of all be reached. This necessitates high pressure, 125 to 180 pounds, and a rather coarse penetrating spray such as may be thrown from a Friend Vermorel nozzle. It is necessary also that the spray be directed downwards into the buds and not thrown at them from below or from the sides. It should be remembered that spraying is done not to drive the insects away or to protect the trees from any possible future attack, but to kill those insects which are actually present on the trees. A tower platform should be built over the spray-wagon wherever the trees are large so that the upper branches can be properly sprayed. Almost all of the standard spray formulas have been tried out and all except two have been eliminated. The bodies of the thrips, both adults and larvae are decidedly oily and strongly resistant to all sprays which do not assimilate readily with oil. For example, the lime-sulphur solution which is ordinarily very caustic and penetrating may be thrown on to the thrips and it will merely gather in globules on their bodies and not penetrate to kill them. Both larvae and adults have been observed to actually float around in the ordinary soap and lime-sulphur sprays with no apparent inconvenience. Dry sprays are also absolutely ineffective. Emulsions of oil combined with crude carbolic acid or crude creosote are extremely penetrating, in reality killing almost every thrips that they touch, even when applied in a very weak form, but these combinations are just as violently injurious to blossoms and leaves as to thrips so they cannot be considered at all. Poisonous sprays are ineffective because the thrips feed upon the inner parts of the plant and not from the outer layers where the poison would be placed.

Black Leaf Tobacco Extract diluted 1 to 50 has been very successful, but this spray seems to demand a somewhat heavier and more penetrating liquid than water alone, as a carrying agent. The distillate oil emulsion in 6% dilution is almost as deadly as the Black Leaf, but there will follow some injury from the spray unless conditions are altogether favorable. The oil spray has the advantage of being heavier, of being forced more easily into the buds, and penetrating the oily coating offered by the thrips. This emulsion, however, reduced to a 1½ or 2% solution can be applied with apparent safety to all trees and combined with Black Leaf diluted 1 to 60 or 1 to 70 it furnishes a spray having all the required carrying, penetrating and killing qualities desired. This is the spray which is now recommended. It can be applied with safety to opening buds but should not be used on trees in full bloom. This spray can be applied to trees immediately after the blossoms have fallen and later on the foliage for adults and larvae. The first application should properly be made when the thrips are coming from the ground in maximum numbers and before the cluster buds are too far advanced. This period in the San Jose district is early in March, but it, of course, differs for the several varieties of fruits. An effort should be made to kill all adults in an orchard before March 15th, when practically all thrips are out from the ground and when oviposition begins.

The Black Leaf Tobacco Extract can be purchased from local agents. Directions for preparing the distillate oil emulsion, with other recommendations for plowing and spraying are prepared in a new circular on the Pear Thrips and will be ready for distribution about Sept. 1st.

**Onions in the Imperial Valley.**

---

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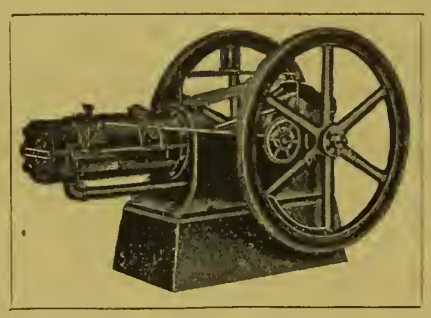

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# With the Citrus Growers

## FERTILIZATION OF ORANGES.

JUDICIOUS and liberal fertilization is essential to the intensive culture of citrus fruits. Cultivation, pruning and irrigation, necessary as they are to the success of the plantation, fail in their object—once the natural fertility of the land is exhausted or sensibly reduced—if the plant food absorbed from the soil be not replaced.

The removal from the soil of the constituents of a succession of crops brings about sooner or later, sterility or exhaustion of the soil from default of nitrogen, phosphoric acid and potash; and this sterility or exhaustion cannot be prevented or remedied by any system of cultivation. Field operations carried out with thoroughness do, indeed, restore to the surface soil the elements of fertility which the rains wash down into the sub-soil, they hasten their solution and prepare them for assimilation by the plant, but they replace nothing. It is indispensable therefore to make good the deficit, and, by means other than cultivation, to restore to the soil what the crops have removed from it. On this fact is based the use of manures, and in manuring skilfully and adequately lies the secret of successful fruit growing.

Barn-yard manure used in moderate quantities will restore to the soil, to some extent, the elements removed from it by continuous cropping, but in the case of citrus fruits it will be inadequate to increase production; employed in greater quantity and to an excessive extent, its effects are rather injurious than favorable, since it gives rise to all the evils attendant upon the application of organic nitrogen in too large proportion.

Moreover, although barn-yard manure is, in a general sense, termed a complete manure, it does not, when employed alone, satisfy the requirements of citrus trees, inasmuch as the quantity of some of its constituents needs to be supplemented if heavy yields and healthy vegetation are to be maintained.

Fortunately, the rational application of manures is daily becoming better understood, and the grower is now in a position, by the aid of chemical fertilizers, to raise the yield of his plantation to a maximum, and, at the same time, to secure for his trees that vigor of growth which enables them to resist unfavorable climatic conditions and parasitic attacks.

Liberal and judicious fertilization is essential to profitable results in the culture of citrus fruits; and the grower should be the less inclined to stint outlay in the purchase of fertilizers, because he may be certain of obtaining highly remunerative returns in the yield and quality of the crop. The orange tree, in particular, is one that responds generously to generous treatment by producing fruit of the highest quality and in enormous quantity.

To manure rationally, it is necessary to take into account the nature of the soil, the composition of the plant, its food requirements, the quantity and constituents of the crop and the conditions of vegetation. Acquainted with these, we are able to determine, with an approximation to scientific accuracy, what are the elements that have to be supplied and in what proportion.

Picking Oranges at Redlands.

The chemical composition of the orange tree—as well as that of citrus fruits generally—is complex, and varies somewhat widely, but the following, which represents the mean of a large number of analyses, will serve as a guide in the employment of manures:

Analysis of Orange Trees.

| | In 100 parts. | | | |
|---|---|---|---|---|
| | Nit. | P. Acid | Pot. | Lime |
| Fruit | 0.32 | 0.38 | 0.32 | 0.45 |
| Leaves | 0.70 | 0.10 | 0.32 | 0.71 |
| Trunk and branches | 0.70 | 0.43 | 0.58 | 0.80 |

These data clearly indicate that no one element distinctly dominates the others; for although lime is present in quantity, that base exists in abundance in most soils and may be disregarded in the preparation of formulae of manures, sufficient of it being applied in combination with phosphoric and sulphuric acids.

In the case of trees, like those of the citrus group, whose foliage is perennial, and which are of comparatively slow growth and subjected to only limited pruning, the elements of fertility consumed in the formation of leaf and wood are relatively small in quantity, and the greater part of the plant-food assimilated is expended upon the fruit. Thus, in determining the nature and quantity of the

manures to be applied, the production of fruit is the principal factor to be taken into account in arriving at the volume of plant-foods abstracted from the soil and consequently having to be replaced.

Let us suppose that an acre of orange plantation (about 100 trees) produces twelve tons of fruit. According to the analysis given above, this crop will contain:

| | Pounds |
|---|---|
| Nitrogen | 85 |
| Phosphoric acid | 102 |
| Potash | 85 |

It will be necessary, then, to restore these elements to the soil, in one form or another, if the trees are not to suffer from want of nourishment and to cease to produce maximum crops of good quality.—Joseph Hillman.

## HISTORY OF THE JAPANESE PERSIMMONS.

KAKI, or the Japanese persimmon, is a native of Japan, Corea and parts of China. There it has been growing wild in the forests from time immemorial. It is a delicious fruit in the wild state, as it grows in Japan, hence the Japanese have taken a great fancy to it, even in its unimproved condition. The persimmon is to the Japanese what the orange is to the Floridian. This love for the fruit even in the wild state soon created a desire for its cultivation and improvement.

The persimmon has been cultivated for centuries in Japan. There it has received more care and attention than any other Japanese fruit. It has been improved to such an extent that there are now many varieties. The Japanese serve and preserve it in many different ways. Various methods of preserving and curing them are in use. In fact, this fruit is now to Japan what the apple is to the United States. It is the national fruit.

There is almost no literature to be found on the Japanese persimmon in this country. Several reasons may be given for this fact. First, it is a comparatively new fruit. Second, there are only a few sections in this country where it can be grown successfully. Third, people must learn to like the fruit, hence there has been no market for the fruit until recently. Fourth, until a short time ago, the value of the fruit was not known in this country. It is somewhat difficult to trace its introduction into the various Southern States.

In 1863, the Department of Agriculture became interested in the Japanese persimmon and a large number of seeds were sent to the Department by the American Legation in Japan. These seeds were sown in the open ground. The plants grew well that season, but as the following winter proved to be a severe one, most of them were killed. Several other importations of seeds were made, but with the same unsatisfactory result, although some of the varieties proved to be more hardy than others.

As a result of these attempts the idea that the Japanese persimmon could be successfully introduced by seed was given up. It was then thought that if the young trees of the hardiest varieties could be secured, the introduction might prove successful. This was done, but the severe winter following again killed the trees.

Then budding and grafting the hardiest Japanese varieties on the American species, Diospyros Virginiana was attempted. The budding proved to be unsuccessful. The grafted trees did well during the growing season, but in the severe winter which followed they were killed. This discouraged the Department and the idea of introducing the Japanese persimmon was given up for some time.

About 1875, a large number of trees were imported by the Department and by private parties, and were sent to nearly all of the Southern States. These importations proved successful, and since then the Japanese persimmon has been planted in nearly every State in the South, and it is now a fruit of considerable importance both for market and home use, especially the latter.

Kizo Tamari, in the Report of the Michigan State Horticultural Report for 1886, says: "Mr. S. Truda was the first to import our persimmon (D. Kaki) into this country; he tells me that the importation cost him considerable pains, and he further states that the fruit was not appreciated at first by the Americans at Tokio, being discarded in America as not eatable; but at present the fruit is well known by every pomologist in this country and is called the Japanese persimmon."

## BLACK SPOTS IN ORANGES.

This disease is one that is very prevalent in some of the orange orchards near Sydney. Like melanose, it lowers the market value of the fruit. The round sunken spots are often large and conspicuous, and seriously mar the appearance of the fruit. The center part of such spot becomes grayish or whitish when the fungus causing the disease is mature, at which time several minute dark pustules appear in each spot. These pustules give rise to a multitude of spores (seeds) of the fungus, and as these spores germinate readily when they come in contact with the fruit, the disease spreads very rapidly; thus fruit that was perfectly clean and free from the disease, as far as it was possible to see, during the month of August, or even September, (equivalent to February and March on this side of the Equator) was very badly diseased the latter part of October and through November.

The disease does not appear to attack the fruit to any extent till it is thoroughly ripe, when it spreads very rapidly, greatly disfiguring the fruit and rendering it more or less unsaleable; in fact, very badly infested fruit falls from the tree and is valueless. The disease spreads very rapidly among ripe fruit. As the disease apparently confines its attack to ripe fruit, the treatment that will probably be most efficacious will be spraying the fruit at intervals of ten days or two weeks at the time the fruit is most liable to attack—say from the middle of August to the end of September for the county of Cumberland—with a fungicide which will destroy the spores of the fungus; or, if it does not actually destroy them, prevents their germinating. The best remedy to use for this purpose will probably be ammonia carbonate of copper.—Agricultural Gazette of New South Wales, Australia.

## SOIL EXPERT.

Prof. A. J. Cook of the Claremont Horticultural Club is now in Washington making an effort to induce the Department of Agriculture to give the services of a soil expert to work in Southern California and determine regarding soil conditions, especially in the citrus orchards. Prof. Cook writes us:

"Messrs. Powell and Woglum have done us great service in pushing conjecture to the wall. We need light as greatly in the line of soil nourishment."

We trust that Prof. Cook will succeed, for not only the chemical, but the mechanical condition of the soil is a factor less understood by soil culturists than it should be. The "conjecture" on which many orchardists are working should be, as Prof. Cook expresses it, pushed to the wall and facts determined as soon as possible. Expenditure of money in the purchase of fertilizers which are not needed is the cause of immense loss.

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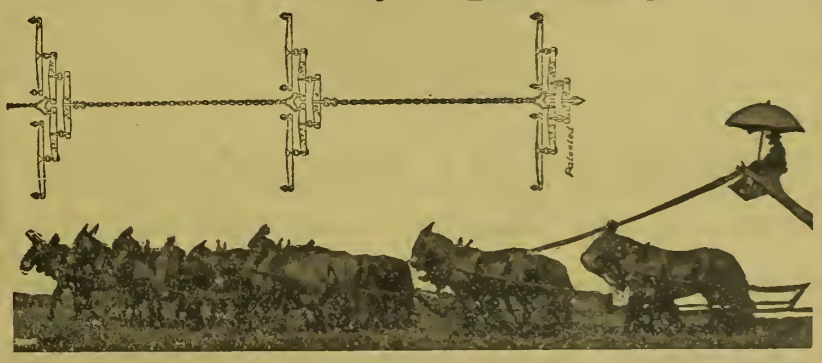

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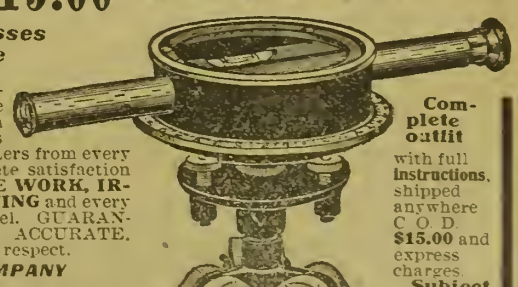

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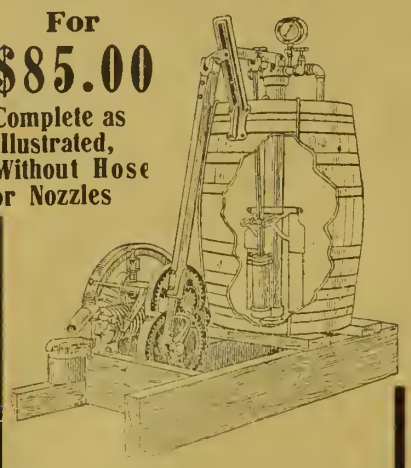

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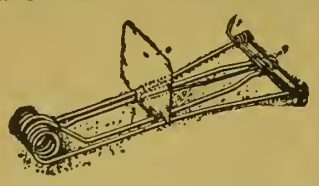

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# Deciduous Fruit Culture

By J. W. Mills

### UNITED STATES STANDARD BOXES.

THE effort to secure the passage of a bill in the United States Congress for standard sized boxes for all apples has stirred up opposition on the entire Pacific Coast. Apple growers in Oregon and Washington have been up in arms, and the Pajaro Valley people have not been asleep by any means. It seems that the bill is presented by the National Apple Shippers Association, and while such a regulation might be for their convenience to a certain extent, it would cause much loss to apple growers and much inconvenience in the complete change of all packing methods. The Orchardists Association of the Pajaro Valley and other organizations in the same section forwarded some time ago a communication which stated the case of the western shippers to the Hon. J. C. Needham, representative of the district most concerned in apple culture, and to Senators Flint and Perkins. From this letter we quote:

"On investigating the Lafean bill we find that when apples are packed in boxes that the capacity of the box must not be less than 2340 cubic inches when measured without distention of sides, tops and bottoms, and further provides that any boxes which contain less weight than this should be marked on end and side in large letters "Short Box," or with the number of cubic inches the box actually contains.

"In this connection would say that the style of packing apples varies in different parts of the United States, according to the variety and also the custom of packing in each district. The various sizes of packages as well as the different styles of packing are in existence for the simple reason that each has been found to be the best for the particular district using it.

"The Standard Apple Box of the Pajaro Valley contains 2268 cubic inches, measuring the box without distention. This box is well known in all districts purchasing our apples, being known as the Standard Apple Box.

"We see no reason why apples should be singled out from the vast quantity of food products that are sold in packages. Table cereals, canned fruit, vegetables, meats, fishes, sauces, pickles and other condiments, extracts, flavors, confectionery, crackers, pastry, chewing gum and other articles are sold in cans, boxes or packages, and the law does not require that the weight or measure of the contents of said package should be indicated thereon.

"The Food & Drug Act of June 30, 1906, certainly protects the consumer, as a packer or dealer would be liable under the law for mis-branding a package. We, therefore, claim that this point is absolutely taken care of and it is unnecessary to have another law for the purpose.

"We understand also that the same bill attempts to define a grade under which all apples should be packed, to be known as "U. S. Standard." Section 6 of the bill contains a description of the apples that can be packed under that grade.

"We maintain that the provisions of this section are too loosely drawn and could be of no benefit whatever to any body concerned in raising, buying or eating apples. There are scores of varieties of apples grown in the United States and in order to have a law that would be proper and just, it would be necessary to define and describe the weight and packing of each particular variety.

"Bearing these various points in mind, we cannot see any reason at all for this bill becoming a law, and we believe it to be vicious legislation of no good whatever except to put the control of the apple business in the country in the hands of a body known as the National Shippers Association, which body is pushing the bill, endeavoring to have it adopted."

The letter is signed by the Pajaro Valley Packers & Shippers Association, By W. H. Benteen, Pres. Chamber of Commerce, By E. A. Hall, Pres. Orchardists Association, By C. H. Rodgers, Pres. Merchants Association, By A. L. Bixby, Pres.

### PRE-COOLING PLANT.

The Cultivator representative now in Placer county sends us the following regarding the recently constructed pre-cooling plant:

Newcastle has a new pre-cooling plant. The first car left here June 17th in charge of a man to test it through to Minneapolis. He reports from North Platte, Neb., that the car had gone through so far with but one icing, at a temperature not higher than forty-six degrees. The fruit packed for shipment is placed in a cooling box of 1800 square feet, having a capacity of 1000 boxes at a time. Placed on an endless chain under slow speed, it takes two hours and twenty-four minutes for an individual box to pass through, or it can be regulated to pass through in one hour and twelve minutes. As the temperature in the cooler is kept at twenty-six degrees the fruit comes out cold and free from moisture. The officers are : Geo. B. Kellogg, President; P. M. Groom, Manager; John Heim, Secretary and Treasurer; M. W. Groom, Patentee.

### VALUABLE BULLETINS.

The white-marked tussock moth, for many years a dreaded pest of village and city shade trees, last year became destructive in many apple orchards in northwestern New York and was thus brought strongly to the notice of Station entomologists. Bulletin 312 of the Station at Geneva gives an outline of this outbreak, with brief descriptive notes on the insect, and indicates the repressive measures that should be adopted.

In Bulletin 314 of the same Station another more fundamental orchard problem is attacked—the proper management of orchard soil. A careful perusal of the data here presented should convince every orchardist that, unless his conditions are very peculiar, he should regularly cultivate the soil beneath his trees, supplying humus by means of late summer cover crops. A five years' comparison of tillage and sod mulch proved tillage superior in every point but one. The apples from trees in sod were slightly brighter colored, but were inferior in quantity, size and quality.

### PECULIAR LITTLE MOTH.

One of the Cultivator force recently captured a peculiar looking little moth which, when at rest, seemed to have two immense horns extending from its head at right angles to its body. They appeared even larger than its entire body. When disturbed, however, these "horns" spread out as wings. Projected as they were when at rest, they were perhaps an inch and a half from tip to tip. The little fellow was sent to Mr. S. A. Pease, the San Bernardino County Bug Expert, who writes: "This is a very interesting species partly on account of its peculiar form. It is called Pterophoridae, a Feather-winged moth. These moths are easily known by their wings being divided lengthwise into narrow, fringed branches resembling feathers. When at rest, the wings do not cover the body but stand out from it on each side, not spread however, but folded together like a fan, so that only the outer part of each of the fore wings is visible. They feed on the young leaves of grapes and when about to change to chrysalids fasten themselves by the hind feet and by a loop over the back. They are attracted by light."

The keeping qualities of nuts, which enable them to be held until a convenient time for marketing arrives is a strong argument in their favor as compared with common fruits, such as peaches, pears or berries, where bad markets, bad weather or other accidents often result in serious losses after the crop has been successfully grown. All of these pitfalls have no terror for the man who has a crop of pecans or nuts of any kind ready for market.

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**Its Cause and Cure**
**By JOHN A. LEHMAN**
**Price 50 Cents**
**Baumgardt Pub. Co., 116 N. Broadway, Los Angeles, Cal.**

# Live Stock and Dairy

By Mrs. Minna E. Sherman

**Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.**

## VALUES.

THE breeder of fine stock is constantly up against the opinions of those who do not consider that it costs more to start in with pure bred stock than it does with mere scrubs. The men on the ranch are often amused by the remarks of would-be horse buyers. One of these stopped a man in town driving a pair of registered Percheron fillies to know if they were for sale. When the man told him he did not know but would call up the foreman, he said, "Those people will want at least four hundred dollars for that pair of mares, for they are rich." I was amused, for there would be no difficulty in the present state of the horse market in securing at any time that amount for either of them as draft animals, without considering that every horse colt they dropped would find ready sale as a weaning for as much as he considered the value of the dam. However, in the hands of the man who wished to purchase them that would not perhaps be true, for he would breed them to some crossroad horse, or perhaps another breed, and have nothing to show for their breeding.

I sold a fine well graded up Percheron mare to a man some time ago, only to hear that instead of continuing to breed her to a pure bred stallion, he had patronized a miserable grade beast because the owner offered him free service, saying the colt would prove a good advertisement for his horse. The farmer did not stop to consider where he would come out in the transaction. It is too bad to use this poor class of horses. Not that I would wish to rob a poor man, but it is unfortunate that the horses in this country are not on the upgrade all the time. There are enough influences to pull them down all the time in size, by underfeeding and accidents without deliberately breeding down the quality. Raise one colt or one calf instead of two unless you can afford to raise both well.

### Cows.

The cows bred for dairying are the best, and there are few poor cows among the pure-bred ones if they have been fed well from birth. Scrub treatment of registered stock only affects one generation, and that is the one starved. I bought two full-blooded cows early in my dairying experience that had been given the worst of scrub treatment. They never developed much themselves, but their daughters raised on the ranch were as good as any of the others. So blood will tell and inheritance come out. By poor cows I mean the cows that fall under 300 pounds of butter a year. I nave never raised a full-blooded cow on the ranch that did not make over this, except in a few cases where they had been accidentally injured.

Breed then must be sustained by feed. This is natural as the breeds were first made by selecting the best cows and feeding them for generations, while the others were sent out to rustle for themselves. Cereals and legumes, with a few of the vegetables such as pumpkins, beets, cabbage and kale, make up the best cow feed. Fruits are not good, though dried figs well soaked can be fed to cows in small quantities but do not bring in the returns that come when fed to hogs.

Raisins are capital horse and pig feed. Some of the ranch horses were fed all winter on half raisins and half rolled barley until two months ago when they received all raisins and alfalfa hay. They are today rolling fat, and are strong in spite of hard work in the long vineyard rows. I had one cow under treatment yesterday for eating raisins accidentally left in an open box at the pig pen. On the fourth of July when everybody was off to town, she slipped into the lane and gobbled raisins for an hour. Then she had pain and had to have a big dose of olive oil and baking soda to relieve the trouble. It will not do to give free rein to the tastes of cows for raisins or they will soon be suffering from indigestion. In feeding figs to a cow, five pounds of soaked figs and ten pounds of alfalfa hay will be found to make a good feed twice a day. Then for roughage feed some straw or corn stalks. This makes a good ration for dry cows and will keep them fat and the heifers grow on it thriftily. I have no doubt that many times they receive more than this when we are feeding figs for they are spread out before them. The only point to bear in mind is to begin any feeding of a different fruit or food slowly and gradually.

### Care in Feeding.

The dairy cow is one of the hardiest animals we have if she is given half a chance. Even careful dairymen take great risks with cows. Only the other day a cow completed a world's record after being kept in a stable for thirty days and surfeited with rich food. Then she was turned out with the herd to take pneumonia and die. Surfeiting cows produces the same effect as in human beings, that is, a gorged condition tending to congestion and colds.

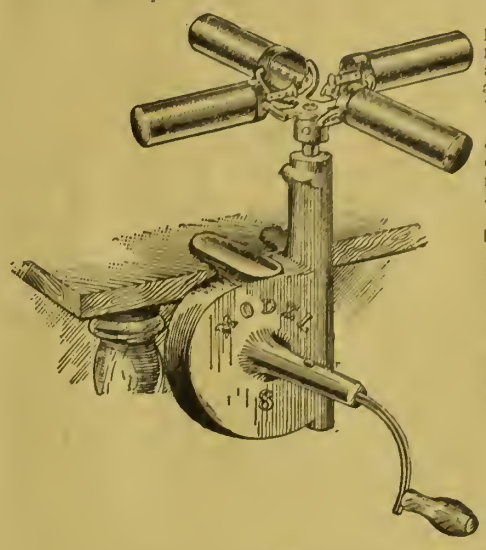
One of the causes of loss on the farm is lack of sticking to the point. When the breeding is begun along a certain line, keep to that line. Do not first use a Jersey sire and then an Ayrshire. Both are good, but when mixed on the cold blood of common stock a hopeless mongrel is produced. Do not breed horses of the roadster class for farm work. If there are some not equal to road work in buggies, turn them off for light delivery work, while the heavy carriage type misfits make fire engine horses. The draft horse never seems to be a misfit anywhere, for while beauty and style command higher prices, still the gravel hauling teamsters need horses that can draw loads without regard to the style that the brewer, meat or mill teams must have to be saleable.

### Fast Walkers.

Prof. Fraser has given an amusing story of seeing cows and horses working together in the fields abroad. He observes, "It is not thought to injure the flow of milk if the cow is groomed and fed the same as the

**Do your cows milk hard? Send 50 cents for teat expander. .O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**


# Improved Babcock Tester



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| | wt. lbs. | |
|---|---|---|
| No. 1 2 bottle for milk, | 14 each | $5.00 |
| No. 2 4 bottle for milk, | 14 each | 6.00 |
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| No. 4 4 bottle for milk, and cream | 15 each | 7.00 |

Price includes full directions for making test, bottle of acid, test bottle brush, acid measure, pipette and test bottles.

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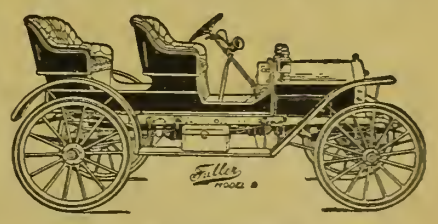

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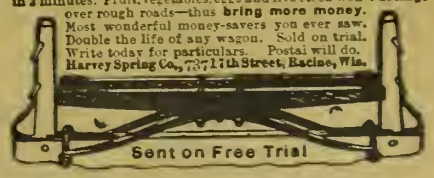


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The UNITED STATES make **cream of any desired density** from **twenty** (20) to **sixty** (60) per cent. butter fat.

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**Montana Agricultural College and Experiment Station.**

Bozeman, Mont., Feb. 8, 1909. This is to certify that the United States Separator that has been constantly in use here at the Dairy Building of the Montana Agricultural College **has given** us **splendid satisfaction.** In light running and durability, the machine is strong and in skimming capacity the No. 5 that we have at the present time has **skimmed as close as .02 of 1 per cent. taking a 35 per cent. cream.**

W. J. Elliott, *Prof. of Dairying.*

**Ohio State College.**

Columbus, O., April 20, 1907. The No. 6 U. S. Separator in our laboratory with the low milk can is a great improvement. We have required it to take a **thick cream over 40 per cent.** fat and **several times** it has been **over 50 per cent.** The **test** of the **skimmilk** is usually **.01 to .02 per cent.** fat. I am glad you still keep up the solid frame and fine workmanship on the running parts, as competition with cheap machines is getting keen.

John W. Decker, *Prof. of Dairying.*

Everett, Washington, Jan. 8, 1907.

I hereby certify that I tested a sample of cream and skimmilk taken from Geo. Crocker's U. S. Separator some time ago and the **cream tested 66** per cent. and **skimmilk a little less** than **two one hundredths** of one per cent. I will further state that I am not now, nor never was, agent for the U. S. Separator. F. J. Adkins, *Buttermaker*, Everett Creamery.

*Subscribed to and sworn to before me this 8th day of January, 1907.*

Thomas W. Cobb, Notary Public in and for the State of Washington, residing at Everett.

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Mr. H. B. Eakins, of the Commercial Warehouse Co., Los Angeles, Cal., U. S. A., writes: "Now that we have had two good rains to test our Malthoid roof, we have desire to express our satisfaction in the knowledge that we have a covering over our head that does not leak. We write you regarding our pleasure in this matter from the fact that we had fully expected more or less trouble, as we did not believe it possible that so large a roof surface could be covered with any material and stand the test of a first rain, but there was not a leak due to defective roofing."

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My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.

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horse and worked half days." The economy of working the slow moving cows was shown in one case where three cows and a horse worked together on a plow, turning over one acre in two and a half days, making an eight inch furrow nine inches deep. Slow plowing is hard work on animals. The quick walkers get to the end of the furrow with less strain than the slow team that grinds along. The best work on a ranch is done by the young teams, and the horses should be sold off at eight years old. In this way the income from the mares is kept constantly coming in and the horses are passed along in their prime to the city trade that wishes quick movers and hardened animals. If the old horses are kept on the ranch they grow slower and slower until it is hard to see them move at all sometimes.

—M. E. Sherman.

## THE HOME CARE OF MILK.

One of the placards displayed in the dairy car of the demonstration train was as follows:

The most perfect milk can be quickly and easily spoiled.

The first matter of importance is that our milk should be kept at a uniformly low temperature from the moment it is received until it is used, preferably at about forty degrees Fahrenheit.

No milk can be properly kept without the use of ice in hot weather.

It is never safe to open milk and cream, and, after removing part of it, leave the jar uncovered, expose the milk in open pitchers, or return any that has been exposed in pitchers again to the original jar.

It is never well to keep milk or cream that has once been opened, in a refrigerator that contains other foods.

It is never wise to expose milk or cream to the usual air of the kitchen, the pantry or the nursery, except for such time as is necessary to obtain what is needed for immediate use.

It is very unwise to put milk into any vessel or pitcher that has been washed in dishwater and wiped with a kitchen cloth. Vessels to be employed for milk should be boiled in clean water and left for use unwiped, with the mouths turned down, and in a clean place.

It is best and safest to use milk at mealtimes from the original bottle in which it is received.

Never cook or boil milk, especially with cereals, in a vessel used for general purposes, but set aside a special vessel and boil it in clean water before using for cooking milk.

## AYRSHIRE SPECIAL PREMIUMS.

The Ayrshire Breeders' Association offers the following special prizes for the season of 1909.

$600.00 in special premiums on the individual entries, with five premiums in each class, at the Alaska-Yukon-Pacific Exposition at Seattle Washington in September 1909. Also a special premium of a silver cup valued at $25.00 called the Secretary's cup is offered through the Ayrshire Breeders' Association at the Alaska Yukon-Pacific Exposition, for the best Ayrshire cow in milk, of any age, bred by the Exhibitor.

$300.00 in special premiums on the individual entries at the National Dairy Show in 1909. There is also offered through the Ayrshire Breeders' Association, by a friend, a handsome sterling silver cup valued at $125.00 called the New England Cup, for the best young herd bred by the exhibitor, (except that the bull may be bred by other than the Exhibitor) Entries to this special prize cup, limited to members of the Association living in the United States.

Animals entered in all the above classes shall be registered in the Ayrshire Record and owned by the Exhibitor, who shall be a member of the Ayrshire Breeders' Association.—Brandon, Vt., C. M. Winslow, Sec'y.


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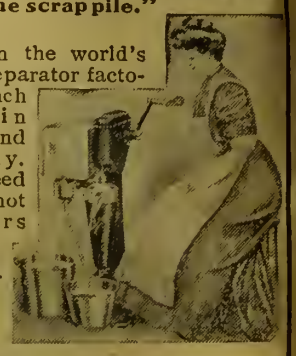

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## CLOVER AS HOG FOOD.

They can't do it. Clover and alfalfa are great hog feeds; their importance is not to be denied; they can be used to the very best advantage, but you can't fatten hogs with either alfalfa or clover. You can grow them, but the best results are attainable only when fed in combination with a grain feed, the best of which is corn.—Swine-Breeders' Journal.

It is doubtful whether unlimited pasture may be considered economical, except perhaps for brood sows. The proper amount of land to give over to pasture must necessarily vary according to its quality and other local considerations, and the length of time the pasture will sustain hogs likewise is dependent upon the climate, quality of the crop, age and number of the animals, and other varying conditions. For an average it may be said that an acre of red clover should support six to ten hogs for three or four months, Alfalfa, the leading pasture plant for swine, should provide, if of vigorous growth, for twelve to twenty-five animals per acre, but an alfalfa stand should not be grazed by so many hogs that mowing will not be necessary for keeping it in the best condition. The practice with alfalfa should be to pasture fewer hogs than will be able to keep back a rank or woody growth.—From Coburn's "Swine in America."


**Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

# Losses

The following is a partial list of losses paid by this Association during the past year. We believe it is the strongest possible testimony as to our promptness in making payments.

This is the only purely mutual Company doing business in the State, and the only one that insures its members at actual cost. We have written over Three Million Dollars ($3,000,000) within the last year.

We refer prospective applicants to any parties listed below or to anyone who has ever done business with this Association.

Our Agents are located in every County in the State. Give us your address, and we will refer you to the nearest one.

Farmers and Stockmen should not fail to join this Association, as it is organized for the benefit of all owners of live stock. We insure against death from any cause or accident necessitating death.

### LIST OF LOSSES.

| | |
|---|---|
| James Hines, Antioch | $ 300.00 |
| Mrs. Helen Hazel, Arlington | 450.00 |
| J. A. Bettencourt, Atwater | 100.00 |
| A. W. Bannister, Bakersfield | 50.00 |
| Hong Chong Tai, Bakersfield | 30.00 |
| A. Romberg, Bakersfield | 200.00 |
| Soo Dabro Miwa, Bakersfield | 30.00 |
| Dong John, Bakersfield | 75.00 |
| K. Kishida, Bakersfield | 15.00 |
| J. A. Cochran, Bakersfield | 100.00 |
| A. J. Hockey, Bodega | 60.00 |
| Martin Pozzi, Bodega | 80.00 |
| T. W. Cheney, Bodega | 75.00 |
| E. H. Cheney, Bodega | 60.00 |
| Henry Finley, Bodega | 78.50 |
| R. T. Kee, Bodega | 40.00 |
| E. R. Strain, Bolinas | 20.00 |
| Manuel S. Bello, Bolinas | 18.50 |
| F. Bellonial, Bolinas | 20.00 |
| W. W. Wilkins, Bolinas | 20.00 |
| W. A. Hanchett, Ceres | 38.66 |
| E. B. Singer, Ceres | 50.00 |
| Joe A. Silva, Ceres | 50.00 |
| W. C. Temple, Calistoga | 25.00 |
| Robert Donati, Cayucos | 114.00 |
| B. L. Donati, Cayucos | 80.00 |
| L. M. Reis, Cayucos | 90.00 |
| John H. Wright, Clinton | 20.32 |
| F. S. Seiler, Chico | 37.50 |
| R. H. Lynn, Chico | 80.00 |
| S. S. McVay, Chico | 12.50 |
| J. N. Skare, Chico | 88.00 |
| J. C. Hess, Chico | 30.00 |
| H. D. Reed, Chico | 10.00 |
| A. H. Mahon, Chico | 50.00 |
| H. E. Schell, Chico | 100.00 |
| Upton J. Russell, Chico | 150.00 |
| Mrs. W. M. Moore, Colton | 30.00 |
| Sclarini & Baciarini, Collinsville | 548.00 |
| Tim & Stewart Bros., Collinsville | 425.00 |
| Peter Osenbruger, College City | 150.00 |
| C. W. Herder, Craftonville | 50.00 |
| W. A. Rice, Craftonville | 75.00 |
| Peter Stewart, Crows Landing | 100.00 |
| Sattler Bros., Crows Landing | 148.48 |
| D. Cereda, Cordelia | 25.00 |
| J. H. Wright, Clinto | 100.00 |
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| W. Fisk, Davis | 120.00 |
| Mrs. M. L. Sharp, Davis | 100.00 |
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| S. S. Hyde, Dixon | 175.00 |
| D. A. Raabe, Dixon | 18.00 |
| C. F. Hay, Dixon | 22.00 |
| A. C. Freeman, Dixon | 40.00 |
| J. H. Rice, Dixon | 30.00 |
| J. A. Kerr, Dixon | 25.00 |
| M. T. Machado, Duttons L'd'g | 816.00 |
| Frank Machado, Duttons L'd'g | 74.00 |
| Azvedo Bros., Duttons L'd'g | 319.00 |
| Baciarini & Yolo, Duttons L'd'g | 175.00 |
| Mary S. Quadros, Duttons L'd'g | 100.00 |
| Machado & Quadros, Duttons L'd'g | 145.00 |
| Frank Machado, Duttons L'd'g | 24.00 |
| Snickers Bros., Elk | 25.00 |
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| Jacob Hansen, Ferndale | 70.00 |
| John Christensen, Ferndale | 60.00 |
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| Frank Bruga, Ferndale | 89.29 |
| Edward Ammer, Ferndale | 15.00 |
| P. N. Terkleson, Ferndale | 90.00 |
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| A. L. & A. Nelson, Fresno | 18.00 |
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| Theo. Bristow, Fresno | 187.50 |
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| M. Fernandez, Freeport | 250.00 |
| M. A. Girdner, Grimes | 20.83 |
| Dan Ryan, Grimes | 100.00 |
| A. H. Stapp, Grimes | 47.14 |
| M. A. Girdner, Grimes | 20.83 |
| J. W. Smith, Grand Island | 26.10 |
| E. H. Burger, Grand Island | 125.00 |
| N. Vanoni, Geyserville | 30.00 |
| Alexander Skaggs, Geyserville | 25.00 |
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| Peter Giovanoni, Gustine | 32.50 |
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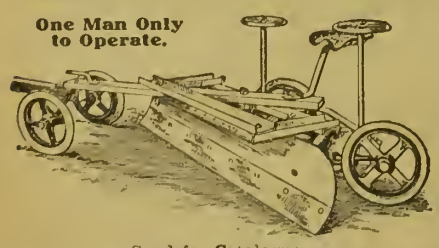
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# Small Fruits and Vegetables

## OPPORTUNITIES IN SEED BREEDING.

THE profits from any crop are largely dependent upon the reliability of the seed from which the crop is grown, writes P. K. Blinn, of the Colorado Agricultural College. A mixture in the variety, or a poor quality in the seed of some crops, may not be a very serious injury; but with a special crop like cantaloupes, that has market demands to meet, the use of poor seed may mean the total loss of a season's work. On several occasions in the early days of the cantaloupe industry at Rocky Ford, when the growers depended upon the seedsmen for their seed, entire fields were worthless on account of mixtures and unmarketable types.

The many strains of the popular Rocky Ford variety of cantaloupes have been named and renamed, regardless of merit, until the practical growers have come to disregard the names or claims for cantaloupe seed; but they do want to know: who grew the seed? What are his qualifications as a seed breeder? What is the performance of the seed?

This is a day of specialization in farming, as in other professions, and the man who wants seed of known qualities is looking for the grower that makes a specialty of a crop and its seed development, rather than the uncertain quality obtained of the seed jobber. No wonder that there is a constant demand for reliable seed of all our farm crops, when the leading seed houses of the country are not willing to stand back of their goods. On all their order sheets, they publish the following notice:

"We give no warranty expressed or implied, as to the description, quality, productiveness, or any other matter, of any seed, bulb, or plant we send out, and we will not be responsible, in any way, for the crop."

Such a statement is enough to arouse any man who expects to risk the season's work on seed purchased under such a contract.

A competent seed breeder, who is developing and selling only his own production, can consistently furnish a certificate that will give some assurance of the quality of the seed. The Rocky Ford Cantaloupe Seed Breeders' Association furnishes the following guarantee certificate:

"Cantaloupe seed accompanied by this certificate, with the seal and package unbroken, is guaranteed to have been produced by this Association in accordance with the by-laws and the most approved methods of cantaloupe breeding. The purchaser is hereby assured of first-grade selection, of a pure strain, and of a genuine Rocky Ford variety known as ----------Pedigree No.------

"This strain of seed has had------ years of individual test plat breeding. It was grown from registered stock seed, and was selected from a field grown exclusively for seed, where no melons were marketed. The requirements for this grade of seed were, fine netting, standard size, good internal qualities, and with no defects that would injure the seed or the crop to be grown from them. The germinating vitality of this seed is as perfect as experience and good equipment can produce.

"In testimony whereof, The Seal of the Association, and the signatures of its officers are affixed.

(Seal) ----------President.
----------Secretary."

Such a guarantee gives the personal reputation of the breeders and assures the grower of many facts he desires to know, as well as where he can get the same stock another year if the seed proves satisfactory.

There are many sections in Colorado that are adapted to the growth of seed for certain crops, and a great opportunity exists for residents of these localities to make seed growing a speciality.

It may be the growth of seed potatoes, onions, cabbage, celery, or alfalfa seed; and in other localities there are almost unlimited fields for breeders of pedigreed grains that are adapted to the several conditions in dry and irrigated sections.

Under a Grape Arbor in Honolulu.

## RAISING ONION SETS.

Some instructions for raising onion sets from seed, how to sow seed, harvest and market the crop, etc., are desired by a Nebraska reader. He has a light sandy soil, very productive, on which onions are doing well.

For onion sets we usually select a piece of sandy soil of fair fertility and reasonably free from weeds. The rest is easy. Sow at the rate of forty to sixty pounds of seed to the acre, making the drills one foot apart. Use the hand wheel hoe freely, which is about all the labor that ought to be necessary.

When the tops begin to die down, showing approaching maturity, the little bulbs may be taken up by running a trowel underneath the row, and thrown into a sieve to clean them from sand and soil. Put them on a dry loft or on sieves to cure, and when dry, store them in shallow and open boxes in a dry and cool place.

Send them to market in early spring. In our local markets we find but few white sets, mostly yellow ones, and hardly ever red ones (grown from Early Red onion seed). The famous Philadelphia white onion set is grown from Silverskin.—Farm and Fireside.

There is some contention at Riverside over the use of city sewage in the production of vegetables by Chinamen, which are afterwards sold to residents of the city.

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# The Ornamental Garden

### GROWING "MUMS" AT HOME.

Would you like to grow chrysanthemums, and have them just as fine as the florist grows them? You may do it very cheaply and have them in quantities.

Select a space on the south side of the house, with the idea of using the wall as one side of the shelter you will need. Spade up a space three feet wide hy twelve feet long, making it very rich with well rotted manure. If it is one quarter manure it will not he too much provided it is well mixed.

Then in May get from your florist twenty-five plants, all different varieties, and all early bloomers, for three dollars. In planting, space them evenly. Give good culture through the summer, and that means keeping the soil loose, and ahsolutely free from weeds. Do not let the plants suffer from drought, but water abundantly if they need it.

You will get a thrifty growth if you do your part. If you want to practice dishudding and trimming to one stalk, you will get large blooms just as the florists do. But if you let Nature take her course you will get smaller flowers, but in greater abundance.

All through October and November, you will have an abundance of flowers for yourself and friends.

### FLOWER NOTES.

Keep the chrysanthemums well fertilized.

Cut up the fern roots and start new plants for next winter. Pot ferns in leaf mold and sand, and keep them in a shaded place.

Cut back tea roses after each period of bloom. Give the hybrid perpetual roses similar treatment. Keep the soil rich about the hybrids and the teas. Cow manure is the best fertilizer for them. Cut off the old blossoms from the Crimson Ramblers. In fact, all the withered roses should be cut off.

In watering flowers from a watering-pot, remove the nozzle and pour the water at the root of the plant. Pour enough so that the water will sink to a depth of four or five inches. When the water is merely scattered over the surface of the ground it does little good. In a dry season, do not water the flowers at all, unless you can keep up the supply of water as long as the drouth lasts. If the plants are watered for a while, only to be neglected later, they will pretty surely succumh.

In tying up vines about the house, use strips of leather; cloth and string will rot sooner or later.

Stake the gladioli and the dahlias.

### INSECT EXTERMINATORS.

Snails without shells, commonly called "slugs," get in their destructive work at night, and hide away in damp, cool places during the day. We know of no method of extermination so effective as to hunt them after night with the aid of a lantern and a sharp pointed stiff wire stuck through the creature. They are good feed for chickens. Those with shells climb and devour the foliage of plants. They can be exterminated by an application or two of Hammond's slug shot applied by putting it in a sack made of cheese cloth and dusting it on the plants in the morning while the foliage is damp. If after three days the pests are not all dead, put on a fresh application of the powder, and at the end of a week cleanse your plants thoroughly with water from the hose.

We have found little chickens to be the best insect exterminators of bugs and heetles, worms and milipedes. If given free range from the time they are big enough to run until they are big enough to do mischief by scratching, they are incessant in their work and devour multitudes of pests. After they arrive at that age, if cooped up, and fed well for a week or two, they are good eating. A half dozen are enough for a small garden, and now that they may be had at a reasonable price from professional incubator hatches there is no excuse for their absence from the garden. Their movements are intensely interesting while at work. If a hen is their mother, fasten her to a stake driven in by a box or barrel for shelter at night.—Pacific Garden.

A Beautiful Walk at Redlands.

Lawn clippings applied to rose beds, dahlia plants, chrysanthemum heds, are valuable fertilizers and should always be used in the garden. So also are the leaves of trees. To be sure, coarse material as here named can only be used where beds can and should be worked up once a month, and in sub-tropical beds, where six to twelve inches of water are necessary every week during the summer for luxuriant growth and fine effect.

### FLORAL HINTS.

Dahlias love a moist atmosphere.

Moisture is sure death to red spider.

Mignonette does not require much water.

Begonias like a moist, shady place in summer.

A tulip bed should be remade every three years.

Nearly all ferns like a moist, cool atmosphere.

Salt to slimy worms is a terrible dressing.

The fuchsia likes partial shade and plenty of moisture.

Cacti will endure all the sun that may he given them.

Do not water a plant till it needs it, then do it thoroughly.

Lifting plants should he done, if possible, on cloudy days.

A freshly potted plant will not stand stimulant, but a mass of roots will.

Deep trenching and liheral manuring is one secret of a good rose bed.

When seed is not to be saved, plants should never be allowed to bear seed.

Heliotropes should never be allowed to become completely dry at the roots.

Cayenne pepper or capsicum is very hard on caterpillars and other soft insects.

Chrysanthemums should have partial shade in summer, and a liberal supply of water.

Spireas require very little pruning if the flowers are carefully cut during the season of hlossoming.

A little fine dust lime mixed with soil will destroy many plant enemies and improve the fertility.—N. W. Horticulturist.

### FLOWER BORDERS.

Pansies, daisies, candytuft, sweet alyssum and oxtails are all good for low-growing horders for beds of taller annuals or perennials. Alternate spring-bloomers with summer and fall flowering plants in the border, and when one gets sleepy the other is just waking up.

It is one thing to plant a garden, and another thing to make the plants in it grow and mature in the hest way possible. The first essentials are good soil, good preparation, good seed, and proper planting. The last, but not the least, is good cultivation.

Experiment with flower novelties, but do not "hank" on them.

### PANSIES.

We take a wagonload of the well-rotted manure from last season's hotbeds for the pansy border, and such quantities of immense blooms as we do have! Pansies do better for me when sown outdoors in the fall or early in spring under glass, and transplanted to coldframes. House-sown plants always get "leggy" and spindly and suffer from "nervous prostration" when transplanted outdoors.

"A spray in time saves nine."


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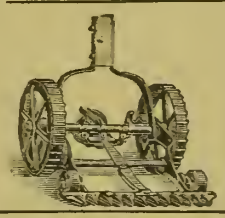

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# California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, July 22, 1909

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants' Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

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Entered at the Post Office at Los Angeles, California, as Second-Class Matter.


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### WHOLESALE PRICES.

Producers have sometimes written the Cultivator inquiring the reason why their products when shipped to Los Angeles or San Francisco markets do not bring the wholesale prices which are quoted in the market columns. These products are usually consigned to commission houses, and it is thought that either the commission houses have dealt unfairly or that the Cultivator market quotations were in error. Either may possibly be the case, though so far as the Cultivator is concerned, we always endeavor to have the market quotations reliable guides for the producers. Occasionally when fruit comes into the market early in the season it is quoted at extremely high prices, and a few days only, will show a very decided slump. Also in the time between the securing of the market report appearing in the Cultivator and the time of receipt by the reader, there may be a material decline. Unfortunately, too, the commission man often plays the market to suit his own interests. Outside of these two factors, we wish to call your attention to the fact that wholesale market quotations do not assure the unknown consignor of securing any such returns for the fruit or produce he sends in. Should he go personally into the market, he would have hard luck in bartering to dispose of his product at the average rate for the day. When he sends to a commission house—if the commission house is an honest one—he should secure for first-class goods the top or at least an average of the market for the day. Then from these prices obtained must be deducted, of course, commission fees, freight or express charges.

With all these ifs in the way, it is not strange that the returns to the producer are often not satisfactory. The cry goes up almost daily; "What can we do to get honest returns for that which we grow?" This is a very hard question to answer, and the easiest solution we have ever been able to offer, and which we believe will ultimately prevail, is to be found in co-operation.

### EFFECT OF A NAME.

Under the title of "Not a Trust," the Cultivator recently referred to the Imperial Valley Melon Growers in an editorial in the Imperial Standard which said, "It is impossible to create a trust such as that of the orange men," and commented upon the statement of the editor, Mr. E. F. Howe, and maintained that the Citrus Exchange was in no sense a trust. At least we thought we maintained such a position. Now editor Howe comes back with this:

"The Cultivator grows interesting. We will not quarrel over words. One can call it a trust, an association, or what he will. But if it is not designed to boost prices its utility is not plai And if the result of union among producers of oranges is not to boost prices, it is not plain why cantaloupe men should follow their scheme. The Standard believes the cantaloupe men should be organized, but the point it made was that the cantaloupe growers cannot so well control output as the orange growers, because any packer can in a few weeks become a producer and break any combination."

We will fall back on Webster's dictionary, which says, "Trust—An organization formed mainly for the purpose of regulation in supply and price of commodities, etc.; as a sugar trust."

We repeat as in the former editorial, the Citrus Exchange is in no sense a trust. It does not attempt to regulate supply. We have not heard since the first very few years of its organization of its attempt to regulate the price. Its entire plan is to secure the top of the market, we admit, but since its abandonment of the F O B plan, we do not know of its having made an effort to boost or maintain prices in the sense which the sugar trust or other organizations have. For instance, it is common saying that if the Standard Oil is squeezed in any law suit or in any way meets with a loss, the price is promptly added to oil, which will cover such loss. Such a trust has absolute control of the product and can boost or maintain any price it sees fit.

If one cantaloupe grower finds himself handicapped by the fact that his crop is too small to give proper attention to its marketing and he joins with neighbor Jones and neighbor Brown and the three send to the market a competent man, who will market their product at the best possible price he can secure, they have not formed a trust, they are not boosting prices, they are merely meeting conditions actually existing and showing good horse sense. True, if they try to combine, control the output and boost the price and early in the season agree that every cantaloupe shall cost a certain sum, as the Standard said in its first editorial, there is nothing to prevent, on six months' notice, the commission men or buyers leasing a body of land and producing their own crop. But the fact that the growers are organized prepared to intelligently meet market conditions such as may exist when fruit is ready for such market, still leaves the producers in better condition to get best returns.

Now, the Cultivator objects to the use of the word "Trust," not only because it is incorrect, but because of the intense prejudice against the trusts and because of the sins committed by organizations under that name. We think the raisin growers and prune growers have both made mistakes in the past by organizing more nearly along the lines of the trust. That is, they attempted to fix a certain absolute price which every grower must stand by. We believe such efforts are in error; supply and demand should be allowed to regulate the price and when that is done, the producers do not run contrary to any law, neither do they run contrary to the prejudices of the trade, which resents efforts to arbitrarily fix prices.

### MORE SCARED THAN HURT.

The few hot days at the beginning of June made such a rattling of little oranges off the trees that a wail went up from all over Southern California that the coming orange crop would be a total failure. As in the case of the Eastern peach crop, this is very nearly a regular cry each year, though it must be admitted that investigations pointed to a more serious condition than ever prevailed before. At the time of the drop the Cultivator said that it would practically be the middle of July before anything definite could be determined. The middle of July shows quite plainly in many orchards that the crop will be far from a total failure. In fact, many growers are found who assert that the crop will be nearly as large as that of last year. The most pessimistic place the estimate at about fifty per cent of last year's. In any case the Cultivator believes that fully seventy-five per cent of last year's crop will be given to the state. If this prediction is made good, the condition is not by any means serious. At the time of the drop some growers maintained that not ten per cent of the normal crop would be given.

The point is that there is always an enormous quantity of fruit, more than the tree can stand up under, and much of it must fall from the trees. The heat this year coming after such long continued cool weather caused the drop to occur all at once rather than scattered over a period of several weeks, as is often the case. It is very probable that next year's crop will bring to California more profit than did that of this year. Present indications are that the fruit remaining will be of excellent quality.

### ASSOCIATION OF INSTITUTE WORKERS.

There will be held in Portland, Oregon, on August 16th and 17th the fourteenth annual meeting of the American Association of Farmers' Institute Workers. Reports will be received from institute workers in all the states and territories, and discussions of value to the workers will be engaged in.

The institute has come to stay, and the more information which can be passed on to the directors of these institutes, the better for the country at large. One question which we note is to be discussed is that of the practicability and advisablity of introducing prize contests along agricultural lines among adult farming people. Another discussion will be on the establishing of moveable schools of agriculture to be held throughout the entire year in various parts of the state.

### CONSERVATION.

The first conservation congress in the United States is to be held at the Alaska-Yukon-Pacific Exposition, Seattle, August 26, 27 and 28. With the dry farming congress, the irrigation congress, and the conservation congress before us, it looks as if a sentiment should be created which will mean much to the advancement of the West. It may seem that there will be a surfeit of "congresses," but the subjects in question are such that a little over-consideration is better than leaving the questions to drift as has been the case in the past.

### EVEN THE EAST WAKING UP.

Chicago does not seem content to remain in the background, and on November 27 to December 4 will hold a United States Land and Irrigation Exposition. This is for the purpose of giving authoritative information as to the best land opportunities in many of the western states.

This will be giving information where it is needed, for in many sections of the East little patience has been shown with the national reclamation project. Such education cannot but be of benefit to the entire country.

# Agricultural Notes of the Pacific Coast

## Northern California

From 86 Bing cherry trees one grower of Contra Costa county netted $2,500.

A new creamery has just been established at Hornbrook, Siskiyou county.

Willows, Glenn county, recently shipped an entire trainload of cattle at one shipment.

Marin county is considering the advisability of an extensive road improvement scheme.

A new drainage district containing 248,000 acres has been formed in Yolo and Sacramento counties.

Government and county inspectors of Humboldt county are engaged in dipping sheep for scab.

The Western Dairy Co. of Alameda has filed articles of incorporation with a capital of $25,000.

Nearly 2000 cars of deciduous fruit have been shipped for this season from Northern California.

Another company has been formed in Yuba county for the production of cheese from sheep's milk.

Over 5,000 acres of land will be planted to eucalyptus between Oroville and Biggs, Butte county.

Lumber shipments from the forests of Humboldt county promise to be larger than ever this year.

The California Fish Commission has distributed thousands of trout in the Truckee and its tributaries.

At the meeting of the Petaluma Egg Exchange report was made that on June 30th $4,500 was in hand.

An enjoyable day was spent by the members of Progressive Grange, Healdsburg, at its annual picnic recently.

Owing to large demands for its products, an alfalfa mill at Proberta, Tehama county, is running both day and night.

The board of supervisors of Siskiyou county paid bounty in June on a total of 179 coyote scalps at two dollars per scalp.

California Grape Growers' Association is planning for a large exhibit of wines and statistics relating to viticultural industry at the State Fair.

The Santa Rosa Chamber of Commerce is making selection from the finest fruit of that section and it is being processed for exhibition purposes.

The outlook for wine grapes this season appears dubious and it is feared the price of six dollars which prevailed last year will not be increased.

Gridley Colony Number Four, one of the newer colonies of Butte county, reports abundance of water and all kinds of vegetation doing exceedingly well.

The Chamber of Commerce of Oroville, Butte county, is making a display of products which have been grown on the dredged ground which has heretofore been called a "rock-pile" and considered of no value.

It is expected that by improvement in transportation to some of the mountain valleys of Butte county, impetus will be given to the raising of cherries in that section, which will ripen much later fruit than any now grown in the state.

## Central California

Farmers at Buttonwillow are planting largely of spinless cactus.

Delano, Kern county, recently shipped five cars of wheat in one week.

Canners seem very backward about naming prices for San Joaquin Valley peaches.

One grain grower near Porterville nets $10,000 from his wheat crop on 120 acres.

The government is installing telephones at various points in the forest reserves.

The Modesto cannery made a short run on apricots and is planning for a more extensive run on peaches.

It is estimated that the San Joaquin Valley will ship about a thousand cars of Malaga grapes during the season.

Marked success has been given an experimenter at Kerman in his efforts to produce a high grade of tobacco.

The Hanford Sentinel appeals for the establishment of a weather service for the benefit of the farmers of that section.

A grass fire starting on the Chamberlain and Carr Ranch near Hanford swept over hundreds of acres and did great damage.

The Santa Clara County Poultry and Pet Stock Association is making extensive preparations for its show on November 9th to 14th.

Buttonwillow, Kern county, is more or less interested in efforts of capitalists to secure a large body of land for a sugar factory.

The state shows an increase of nearly a million and a half pounds of butter for the month of June over the corresponding month in 1908.

The forest service contemplates establishing watch towers on the hills of the various forest reservations so as to secure early information as to fires.

Sewage from the city of Hanford, Kings County, has been used this year on some formerly worthless land and produced a magnificent crop of potatoes.

San Jose distributed cartons of cured prunes at the meeting of the Elks in Los Angeles last week. Their slogan in their advertising was Best Prunes On Earth.

The forest service is experimenting in seeding much of the reserve land with alfilaria which is so common over the deserts of California, Arizona and New Mexico.

The coming of the referee board appointed by Pres. Roosevelt to determine as to the poisonous effect of sulphur on dried fruit is awaited with great interest by dried fruit producers.

At the recent meeting of the retail grocers' association held in Portland, Oregon, Santa Clara Valley prunes were declared to be far higher in quality than those produced in Washington and Oregon.

The forest service will make various experiments near Fresno with methods of preservation of the common yellow pine to determine whether decay may not be prevented and that timber used for electric wire poles.

## Southern California

Los Alamitos Sugar Factory started slicing beets yesterday.

Coachella is sending out several cars of watermelons weekly.

Experiments are being made in beet culture in the Coachella Valley.

Antelope Valley finds abundant labor for all hands in its fruit and grain fields.

A district agricultural fair will be held at Arroyo Grande, September 20th to 25th.

Some of Coachella Valley vineyards boast of a yield of $500 per acre per year.

Orange county's output of sugar beets this year will aggregate over a million dollars.

Highland fruit growers are considering the advisability of holding a farmer's institute.

The Imperial Valley now has direct communication with Los Angeles by long distance telephone.

Authorities at Washington have merged the San Luis Forest Reserve with the Santa Barbara.

San Fernando Valley apricot crop will be a big one, but it is hoped sufficient labor is at hand to control it.

The grain crop at Canejo, Ventura county, is exceptionally good, one rancher reports forty bushels to the acre.

Growers generally maintain that the walnut crop will not be heavy but of fair proportions and excellent quality.

The output of beets at Chino this year will be so heavy that some of them will be shipped to the Oxnard factory.

The Union Sugar Co. at Betteravia reports the beet crop as excellent and the plows already turning out the beets.

Employes of the Chino sugar factory were given an old fashioned barbecue by the American Beet Sugar Company.

The chili crop of Orange county has been purchased at $22.50 per ton. It is claimed this will aggregate $150 per acre gross.

Santa Barbara county proposes to inaugurate a good roads movement which will involve the expenditure of hundreds of dollars.

The Mountain View Orange and Lemon Growers' Association at Upland claims that it has the best and most scientific lemon storage house in California.

The Alta Cresta packing house at Riverside makes the claim that in shipping 105 cars of navels, the deduction for decay on the entire amount was six per cent on ninety-three boxes.

The Southern California honey crop will not be so large as anticipated earlier, but the discouraging reports of the last few weeks have proved to be without foundation, as reports from various sections now show that at least a fair crop will be secured.

Thousands of acres of grain were burned at San Fernando, Los Angeles county last week. The loss was estimated at $125,000. Hundreds of farmers gathered and with mowing machines, rakes, and gang plows fought the fire until it was successfully controlled.

## The Coast

The first car of Yuma Valley cantaloupes went forward July 2nd.

Utah potato growers report the biggest crop ever grown in that state.

Yuma observes an annual feast of the melons which occurred this year July 1st.

The Spokane market reports abundance of California cabbages shipped to that point.

Troy, Idaho, reports the recent fall of rain as sufficient to guarantee this season's crops.

The farmers' union of Genessee, Idaho, has decided to buy a site and erect a large warehouse.

Farmers at Pasco, Washington, are uniting to secure water for irrigating about 4,000 acres of land.

The Secretary of the Interior recently withdrew over 500,000 acres of land in Idaho from entry.

The director of the Utah experiment station is making a study of pests affecting sugar beets.

The entire Spokane country, often known as the Inland Empire, reports the biggest crop of wheat ever harvested.

Preparations for the great irrigation congress to be held at Spokane August 9th to 14th are practically all completed.

Owing to good market conditions canners in eastern Oregon have failed to secure any cherries for canning this season.

Goldendale, Washington, reports six new combined harvesters delivered to grain growers of that section this season.

An immense irrigation scheme is under way in Texas by which it is hoped to reclaim over a quarter million acres of land.

Rains during the early part of July near Portland were sufficient to save the potato crop which was beginning to suffer from drouth.

A heavy rain falling for over 24 hours thoroughly soaked the lands near Pullman, Washington, causing the lodging of much wheat.

A big colonization scheme is projected for the northern part of Morrow county, Oregon, by which over 18,000 acres of land will be occupied.

Grain growers near Lewiston, Idaho, now hope for a reduction in transportation charges which will nearly cut the freight rate in two.

Poultrymen of Asotin county, Washington, have organized and incorporated and will hold their first poultry show December 7th to 11th.

A German expert investigating grape growing conditions at Pasco, Washington, reports that the Columbia River basin, in his opinion, "excels any grape growing section of the world."

The farmers' union of Colfax, Washington, recently discussed the handling of the coming crop of grain, and the first feature of the campaign was decided to be a canvass for new members.

The fruit growing lands around Colfax, Washington, will produce 125,000 boxes of peaches and 35,000 boxes of plums in the face of a claim of total fruit failure made earlier in the season.

**FOR MOULTING HENS**

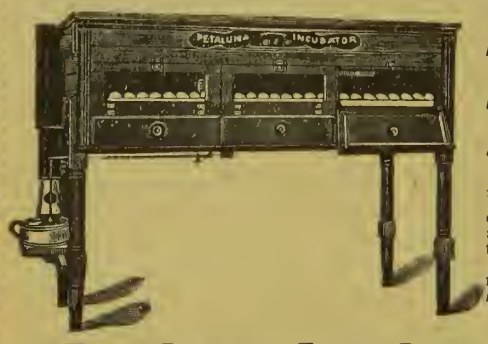
**Feed**

**MIDLAND**

**Poultry Food No. 4**

***$1.95 per Sack***

Midland moulting food is a balanced ration for the moulting hen and is absolutely the best food to feed for eggs and feathers. By feeding No. 4 now you bring your flock through the moult in good condition, which insures eggs when the market is high.

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Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

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**Petaluma, California**

Our General Agents for Incubators and Brooders and Midland Poultry Food:

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**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**

**Berrar & Robertson, San Jose, Cal.**



**Feed for Eggs Next Fall by Starting In Now with**

**West Coast Egg Food**

Don't make the common mistake of supposing that you can let the fowls get all run down before or during molting and then bring them up by heavy feeding later. You won't get eggs that way.

West Coast Egg Food has been the leader for many years. It is even better this season. We know how to make rightly balanced rations. That is our business. And we have the best equipped mill for doing it. No unsound grain, no mill refuse and such stuffs in ours.

Send for Biddy Booklet with many testimonials. Ask your neighbors, for there are more West Coast Poultry Foods fed in Southern California than all other kinds put together. If your dealer doesn't sell "West Coast" don't take others "just as good," but send to us and we will serve you right.

75-lb. sack, $1.90; 90 lbs., $2.25; 100 lbs., $2.50; 50 lbs., $1.30.

**West Coast Mill**

**Cor. Griffin and Alhambra, Los Angeles**



**Sept. 6th -- Big Hatch**

**Chicks, 10c and Up**

About that time we will be ready to ship all kinds of chicks we list in our catalog. Place your orders now if you wish to get chicks out of that hatch. Fall chicks make big money, and are easily raised. Send for booklet today, and order as soon as possible, so as to be sure to get them. We will sell

***One Million Chicks in 1910***

***Pioneer Hatchery Company***

***112 East Eighth Street, Los Angeles, California***


**A packing house on the Everest ranch, Riverside, recently burned destroying much packing machinery.**

The forest service has adopted a uniform for the rangers of the national forests.

# Profit in the Poultry Yard

By Mrs. Frank Metcalf

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

## CHICKEN CHAT.

As the days grow warmer, don't get lazy and neglect those growing chicks. If you want some good, mature stock for prize winners, it is up to you to look well after their wants now. Fresh water they must have, placed in shady situation, and good food and plenty of it, if they are to grow that lustrous coat of feathers and lay on the necessary weight.

A dry mash of mixed grain and beef scraps should be always before them in a hopper, and green food fed daily, with grain also twice per day. Give them all the range you can with safety, and keep them and their houses free from mites and lice by frequent spraying, of the one, and dusting of the others.

Just as soon as the sexes can be distinguished, separate the pullets and place in a yard by themselves, and you will find it pays. Be very sure they have plenty of fresh air at night and that they are not crowded, providing broad flat roosts, and open front sheds.

If they are shy about learning to roost, don't try to put them up night after night, but place a hen or two with them, and they will soon learn the trick without loss of time or temper. And how proud they seem of the new accomplishment the first few nights!

The culls should be disposed of just as soon as a profit can be obtained, and rather than feed them too long, sell them at very little above cost, thus leaving more room for the better ones.

Feed green cut bone when it can be had fresh, but if doubtful, use more of the beef scrap.

Onion tops should not be thrown out, but should be chopped or ground up for the growing chicks and turks. It is said that onions fed plentifully are a preventive of lice, and that an occasional feed of sulphur is also a good thing, as it cleans the system of worms and germs, while it adds luster to the plumage, but must be used with caution when there are signs of rain. A teaspoonful of flowers of sulphur can be fed to a dozen growing chicks safely, and put in milk or mash.

There are to be some rousing shows this fall, and it is well to take time by the forelock and prepare ahead.—Mrs. Frank Metcalf.

## POULTRY QUERIES.

### Canker.

I am going to tell you of my experience with chickens with sore mouths. I had three hens and a Barred Plymouth Rock rooster get sore, cankered mouths. They seemed to be covered with a yellow substance and the odor was simply awful. I never saw anything like this, and I at once set to work to doctor them.

They all sneezed and seemed as if breathing was very difficult. I mixed lard and coal oil half and half and soaked head and back of bird and put some down each mouth. Then I took blue stone, quite a piece almost the size of a marble in a cup of water, and a cloth around my finger and held the bird's mouth open and cleaned it out every morning for ten days. I fed during this time, nothing but sour milk and table scraps. I saved all my chicks and it's now been a month since their entire recovery and two hens are laying.

I kept them entirely away from other fowls. No other shows any of this trouble. Did I do right in curing them? I have been informed it will break out again, and the offspring will inherit this disease. Is this a fact? Would you always kill the bird affected thus, and what is the disease?—Mrs. N. Weist, Imperial Valley.

This treatment seems to have been effective. For egg production for table or market, these hens will probably be as good as others. For breeding purposes we would prefer eggs from hens never affected with canker or similar trouble.

## EXPERIENCE WITH PEKIN DUCKS

The writer has perhaps had more experience in raising ducks than the average person, and will say that the large Imperial Pekin is the market duck par excellence, when well fed; but when half-fed (I came near saying half starved), he becomes a creature of no use whatever.

Some people will turn their little ducklings out to shift for themselves just as soon as they have gotten a fair start. They ought to know that a duckling isn't a gosling. One of our neighbors feeds her ducklings wheat as long as they survive. Another lets the little fellows snatch a bite from the chickens, providing they are quick enough, and so it goes. The result can easily be imagined little, stunted, hump-backed scavengers, whose beaks and feet have far outstripped their bodies in growth.

Now, there is neither pleasure nor profit in raising ducks by any such haphazard methods. Aim at perfection and don't be satisfied until it is reached. It is just as easy to raise good ducks as it is to raise good chickens, and, perhaps, a little easier, when one knows how.

The Pekin is a large feeder, this being his greatest fault. He does not necessarily require a large amount of grain, but something wholesome and nutritious, not too highly concentrated. Whole grain (with the exception of green corn, cut from the cob), should never be fed to young ducks. Ground grain is much better for both old and young. We sometimes feed soaked corn to matured ducks.

Cooked vegetables, thickened with equal parts cornmeal and bran, is a favorite duck feed here. If potatoes are used, the cornmeal and bran should be well moistened before it is added to the potatoes. When dry meal is mixed with cooked potatoes, a tough gummy mass is the result. The ducks may try to eat it, but the greater part is shaken out of their mouths and wasted.

Turnips, beets, cabbage, etc., are fed, but they do not contain starch as do potatoes, and therefore, no water need be used in mixing. In winter, when other green food is scarce, it is better to feed cabbage raw. Boiled oats, cut clover or alfalfa, either boiled or scalded, sometimes furnish the basis of the mash, instead of vegetables. Bran is an important factor in duck feeding. A duck will

seldom lose its appetite when housed in winter if plenty of bran is fed. Green food is also a prime factor in keeping ducks healthy. I prefer green rye to all other "greens."

We keep our ducks housed in severe weather. A Pekin duck cannot endure much cold. The floors are cleaned often and plenty of dry litter or straw is used for bedding. The water vessels are scalded every day and fresh water is given with every meal, and sometimes between meals. The water is always warmed a little in cold weather. And the grit is never forgotten, though never mixed with the feed. Coarse sandstone, broken fine, and coal cinders, are preferred to sharp grit. When grit is added to the feed, the ducks are sometimes forced to eat more than they require. Our ducks are fed enough to keep them fat the year round, for unless a Pekin duck gets enough to eat she will not lay many eggs, and besides they sometimes acquire a disagreeable habit of eating drift. Never feed or house ducks with other fowls. Add a little salt to their food twice a week.—Commercial Poultry.

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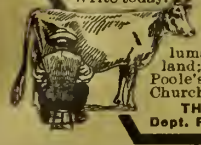
Don't do a thing a certain way just because a neighbor does or does not do it that way. Every successful man does his own thinking.


**No Flies at MILKING TIME!**

Don't blame the cow for switching her tail so furiously. Don't throw the milk-stool at her because she "side-steps" and upsets milk pail. The critter can't help it when flies are constantly prodding her hide for warm red blood.

**Conkey's Fly Knocker Knocks Flies**

Spray your cows with Conkey's Fly knocker and the flies won't come near. It drives them away. The greatest discovery of the age. Sold under a positive guarantee. Prices—qt. 35c; ½ gal. 60c; gal. $1. Agents wanted everywhere. Write today.



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**COULSON'S POULTRY FOODS**
MADE IN PETALUMA
GUARANTEED
SOLD EVERYWHERE


### CLEANLINESS.

What to do in the way of cleanliness will perhaps be better remembered if a set of rules is laid down for the reader's guidance.

Provide a good dust bath for the fowls to wallow in. It is the best remedy for body lice. Paint the roosts once or twice with a good liquid lice destroyer. In early fall apply a coating of carbolated whitewash to the wood-work of the interior. It is an excellent lice destroyer and disinfectant, beside reflecting more light on dark days.

---

### A ROUP CURE.

Shut the chickens in the hen house and when they are all on the roost heat an old piece of iron (say a plow share or most any kind of iron), and when it is hot place it in the hen house and pour some carbolic acid on the iron, and the smoke that they will inhale will do the work. If the smoke gets too strong give them a little air. They will snuffle and make a noise, but this will do the work even if they are in a very bad condition.

---

The optimistic poultryman is the fellow who gets the most pleasure out of his venture. Everything looks bright to him, and, forgetting the hard knocks and disappointments of the past, he tackles the proposition anew, determined to win success in spite of all obstacles that may confront him. The pessimistic fellow, on the other hand, mopes around, not knowing whether to make another effort or not, and if he finally does decide to make another try, he goes about it in a half-hearted way that in itself brings on more disappointment and ultimate failure. It pays to be an optimist.—Commercial Poultry.

---

The poultryman who is making a profit from his poultry will no doubt see the importance of making poultry raising an industry which he is proud of and do all in his power to maintain and advance all lines of poultry raising. Poultry production in the United States has become one of the greatest industries in the world. In every section of the world chickens occupy the attention of many persons, some of whom are in the business for profit, others for pleasure.—N. W. Horticulturist.

---

Patient, industrious, untiring application, year after year, at any constant occupation, lends its assistance to success. Everyone that starts out in the poultry business will not make a success of it. Just so in every vocation of life. The wayside is strewn with wrecks. It has always been so and always will be, yet that does not prove that all kinds of businesses are failures. The cause is the man.

---

There is no better food for setting hens than whole corn, and there is no danger of their eating too much of it. It furnishes bodily heat and that is what is wanted. Aside from this, the setting hens must have good, sharp grit, plenty of clean water and a dust bath. An occasional feed of charcoal is good for them, too.

---

Hawks and owls to the number of 5,000, representing seventy species, were examined recently by an investigator. It was found that of this number only three, namely, the goshawk, copperhawk and the sharp-shinned hawk, prey upon poultry. When you go on the warpath, therefore, keep your eye peeled for these.


**Have You Tried Coulson's No 3 Condition Powders for Poultry?**

A first-class tonic and conditioner like ***Coulson's No. 3 Condition Powder*** is of great benefit to the chickens, especially when used at this time of year.

***Coulson's No. 3 Condition Powders*** will prevent diseases, by keeping the flock in a thoroughly healthy condition. By the same means it will keep them laying longer into the molt, and their healthy condition will enable them to molt quickly and commence laying at an early date. As it contains no injurious stimulant, it can be used with perfect safety at all times and for this reason is fed in large quantities by numerous poultrymen.

**It Contains No Cheap Filler**

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Coulson Co., Petaluma, Cal. Petaluma, Cal., July 21 1908.
Gentlemen—I consider your ***No. 3 Condition Powders*** an excellent tonic to put laying hens in good condition. J. W. GEORGE.



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You will have no trouble in filling the reservoir during the spring rains, when all the streams, little and big are flooded.

Then you will not be at the mercy of ditch owners and other water users when the dry season comes.

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The farmer who has a water supply of his own, so that he may irrigate a few hours now and again, without regard to whether the water is flowing in the company ditch, is the independent farmer.

A reservoir on your own land and an I. H. C. gasoline engine to give you the water when you want it, where you want it, is the solution of the problem.

The I. H. C. gasoline engine can be used for other purposes beside pumping. It is a general purpose engine, which will be found an all around handy farm helper—to run grinder, sheller, separator, fanning mill, washing machine, churn, grindstone, etc. The I.H.C. line includes besides Famous pumping engines and jacks, the following:

Stationary engines, from 1 to 25 horse-power; Portable engines, from 2 to 20 horse-power; Skidded engines, from 2 to 8-horse-power; Tractors, 12, 15 and 20-horse-power, and Sawing and Spraying outfits.

Call on the International local agent for catalogs and all particulars in regard to these engines, or write nearest branch house.

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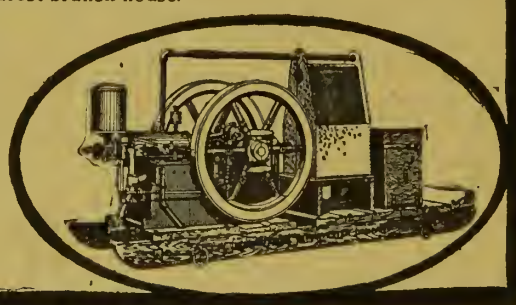

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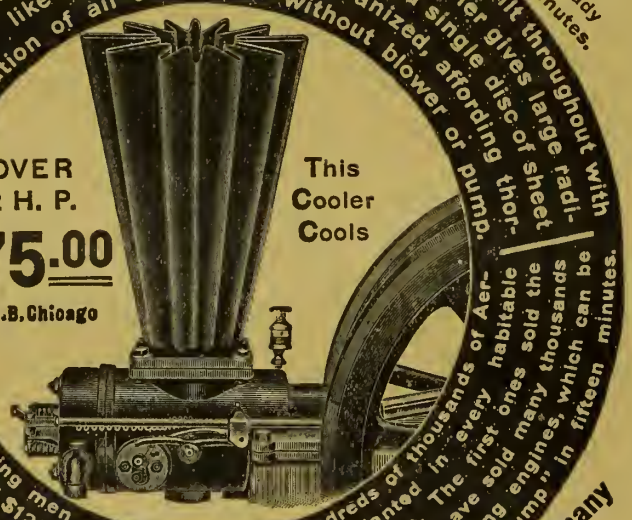

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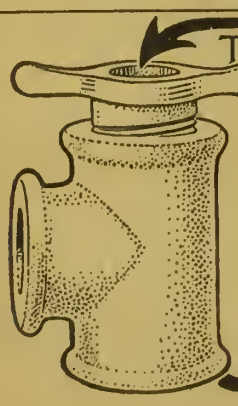

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# Irrigation and Forestry

### JAPAN MAKES INNOVATIONS IN FOREST MANAGEMENT.

JAPAN is the only govenment in the world which takes upon itself the working of its lumber business, according to Consul-General Henry B. Miller, of Yokohama, in a report in which he quotes the director of the Japanese Forest Bureau.

The Mikado's government has set apart a quarter of a million dollars to build sawmills and lumber roads, manufacture lumber in remote districts, and put it on the market. Except railroad ties for Manuchurian roads the Japanese government exports no timber. It is all needed at home.

Many governments in different parts of the world own forests, but, as a rule, the timber is sold where it stands, and the buyer cuts and markets it. That is the way it is done in the National Forests of this country. The Japanese government, however, proposes to carry on all parts of the work, from planting the trees to selling the lumber after it has been manufactured. The report says:

"Recently an official in the department of agriculture and commerce was sent to the United States, and others to Europe for the inspection of the timber trade and forestry adminstration. A commission was also sent to India for the same purpose. A specialist on forestry in the same department is to be sent to South America shortly on a similar errand. The latter will thoroughly study the rubber plantations, and, if possible, bring back roots or seeds for planting on the Bonins and Luchu groups.

The Japanese department of agriculture and commerce, which established a sawmill in Akita prefecture in 1906, making a grant of $100,000 in that year and $150,000 in 1907, to develop the business, has obtained a vote of $150,000 toward the fund for the extension of the lumber business, and new government mills are to be established in Nagano and Aomori prefectures. Before the end of this year there will be nine timber mills in all in Akita, Aomori, Miyagi, and Kumamoto prefectures, all worked by the government. There is a very heavy supply of timber, but these forests are remote from railways, rivers, or seaports, and much expenditure is necessary for opening roads or constructing other means of transport in order to make such timber available.

District forestry offices will, however, not work mills regardless of profit, as strong competition is going on among them. It is stated that the government mills will only supply their products to merchants in Japan, and the works are not yet progressed to such a stage that the government can export direct. So far, the export of timber by the government mills has been confined to supplying sleepers to the South Manchurian Railway Company."

### REFORESTING BURNED-OVER AREAS.

An investigation as to the practicability of reforesting the great area of forest lands which have been devastated by fire and which are now lying barren and unproductive is now being carried on by the United States Forest Service in the Olympic National Forest in Washington. The area selected for the experiments comprises several thousand acres on the Soleduck River, and was at one time covered with a magnificent forest of Douglas fir. It was first burned over in 1890 and again in 1895. A third fire over almost the same area occurred in 1906, destroying the last remnant of the original forest, leaving the entire area treeless.

In some regions a second growth of trees will come in naturally after a burn, in the course of a few years' time, and where this happens artificial means of securing reproduction are not necessary. There are, however, other burns, where new growth does not come in readily, due to adverse climatic conditions, absence of seed trees, or perhaps to the impoverishment of the soil by repeated fires. These areas are often of very large extent and in such cases some means, such as planting trees or sowing seed, is necessary to restore the forest. The burn in the Olympic Forest is of this nature and the Forest Service is planning to conduct a series of experiments to determine the proper methods of reforesting the area. Douglas fir will be the species used.

It is believed that on the greater part of the area simply scattering the seed over the ground in the fall before snow falls or in the early spring will be sufficient to start a new growth. On other portions of the area, however, where a growth of grass and weeds has covered the ground, it will probably be necessary to work the seed into the soil by raking or dragging brush over the ground. In some localities sowing by what is called the seed spot method in which several seeds are dropped together in spots and covered with soil will probably be successful. To test these various methods five experimental plots have been selected. These represent the various conditions found on the burn, such as difference in slope, altitude, exposure, and vegetation.

This fall a large quantity of Douglas fir seed will be collected and a quantity sown on each plot. Next spring the experiments will be repeated and it is expected that the results obtained will indicate what methods and what seasons of the year are best adapted to the conditions found on this burn. When this is accomplished the Forest Service will be in a position to commence the reforesting of the Soleduck burn on a large scale and to re-seed large areas each year.

It is believed also that the results obtained will be of value not only in solving the problem of re-stocking the burn in the Olympic National Forest, but that much will be learned concerning the best methods of reforesting denuded areas on other forests throughout the Pacific Northwest, where conditions are similar, and that thus the work may be largely extended.

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"To make farming without irrigation successful, a considerable percentage of soil moisture must be carried over from year to year. Fall or winter irrigation is advisable on deep soils with good drainage. It should be practiced in moderation. Summer fallowing conserves the soil moisture; the longer the fallow period, the higher the percentage of soil moisture. The reason why the beneficial effects of summer fallowing and fall plowing are not more evident in the soil moisture content is that the water capacity of most arid soils is small and that during the winter season a large portion of the water moves below the eight foot limit reached by the soil augers."

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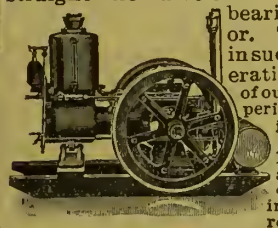

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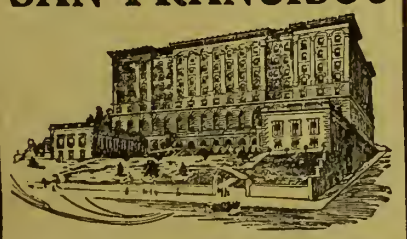

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# General Agriculture

## MONEY IN BEETS.

An assured price for one's crop will be a big inducement to plant beets, the price of which is contracted for previous to even sowing the seed. Potatoes piled under straw in the fields, grain in stacks, and huge piles of hay under their board shelters testify in a mute but vigorous manner to a present lack of ready money; and until these crops are moved there won't be any capital for those to come. There isn't much satisfaction in raising a crop and then having it remain on one's hands as it has done this year. But infinitely worse is the planting of the same crops again with almost certain outlook of a stagnant market at the time of harvesting. And where is the money to come from that is to gather the crop?

The wise farmer will rotate with beets this year. Not only is he sure of his money, but he is helping his land. Grain year after year depletes the land and destroys the best physical condition.

Put beets in this year and you will not only be pleased but actually astonished at the difference it will make in your yield. The deeper plowing, the ramifying rootlets of the beets, and the increased cultivation will not only restore your land but it will rest it as summer fallow never can.

Rotation is the life of the land. It will hold off the day when fertilizers must be applied for a period of years, how long depending on the kind of crop raised, the length of time the ground has been under cultivation, and the strength of the soil in the first place. Rotation without fertilization is far ahead of fertilization without rotation. Especially true is this on our grain lands, where the plows run but four or five inches deep.

That rotation pays can be seen from Germany's experience. The Germans are very careful, methodical farmers, quick to follow new ideas when they grasp their importance, and always studying their soil and crop requirements. Even in their country, where every bit of land is farmed and crop rotation is an old story, they can increase their barley 25 per cent and their potatoes 100 per cent by following beets. We can increase these results very much here, where the soil is naturally strong and the methods employed pattern after the "by guess and by gorry" scheme rather than after scientific principles.

To convince yourself of the truth of these remarks try out a piece of land this year. Put fifty acres, or, if that is too much for you, twenty-five, or ten, or even five, into beets. Follow out the right method of growing. Plow deep, seed well and cultivate thoroughly. Do all the work on time.

Then harvest your crop and another year plant out your old standbys on this piece—grain, potatoes, corn, alfalfa or whatever it is—and you'll be certainly surprised at the greater increase in yield, the easier handling of the land and incidentally (and most important) you will prolong the life of your land, guaranteeing lifelong returns from it not only to yourself but to your children. Think it over.—R. L. Adams, Director Experiment Station of Spreckles Sugar Co.

## PAINTING THE OLD CARRIAGE.

Invest $1 in paint and back it up with a little elbow grease and you can put $10 or more value into your old carriage. I have painted several during my life with good results, and it is always a wonder to me why a man will drive a rusty old rig around when a little paint will make it appear fairly respectable, even when it is almost ready to drop to pieces.

I usually use a dull-finish paint first and follow it with varnish for a second coat. Wash your buggy clean the first thing you do, and go over it with sandpaper if you want a good job. Good paint can be had at practically all towns in the country. Let the first coat thoroughly dry before putting on the coat of varnish. In applying the varnish handle your brush with a light, sweeping motion, covering the surface rapidly and evenly. I have never found it advisable to attempt striping a buggy. I tried it once, but it detracted rather than added to the looks. The average farmer has not the facilities or the steady hand to stripe a buggy satisfactorily.

If you do not care to use this combination it is an easy matter to get paint which is already prepared with varnish in it. In that event one coat may be sufficient. I tried both ways, but prefer the dull finish followed with the varnish; the latter, of course, to put on the shine. A special paint or preparation can be bought for the top and dashboard, which is very effective. There is no great secret about painting a buggy, the greatest trouble being to get at it. Neither is it as big a job as some might believe. —New England Homestead.

## GUM ARABIC.

The most familiar objects about us are often the least understood, and probably few pause to ask the question, "What is gum Arabic and whence comes it?" In Morocco, about the middle of November (that is, after the rainy season), a gummy juice exudes spontaneously from the trunk and branches of the acacia. It gradually thickens in the furrow down which it runs, and assumes the form of oval and round drops, about the size of a pigeon's egg, of different colors, as it comes from the red or white gum tree. About the middle of December the Moors encamp on the border of the forest, and the harvest lasts a full month. The gum is packed in large leather sacks, and transported on the backs of camels and bullocks to seaports for shipment. The harvest occasion is one of great rejoicing, and the people for the time being almost live on the gum, which is nutritious and fattening.

## IMPORTANCE OF THE LEAVES FOR HAY.

One of the dangers to be guarded against in alfalfa hay making is the shattering of the leaves. Only two-fifths of the total weight of the alfalfa plant is in the leaves, yet three-fifths of all the protein is contained in them. In other words, 44 pounds of the leaves contain as much protein as 100 pounds of stems. Analyses show that the leaves are somewhat richer than bran for feeding purposes. Much of the loss of leaves ordinarily occurring during harvesting may be saved by proper attention to the curing operations.

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When you're studying ways to increase business—how to make more trips per day, or how to carry more pounds per trip—remember

**MICA AXLE GREASE**

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| ⅜ in. | 2.90 cts. | ⅜ in. | 1 ct. |
| ½ in. | 2.90 cts. | ½ in. | 1 ct. |
| ¾ in. | 3¼ cts. | ¾ in. | 1½ cts. |
| 1 in. | 4¾ cts. | 1 in. | 3 cts. |
| 1¼ in. | 6½ cts. | 1¼ in. | 4 cts. |
| 1½ in. | 7¾ cts. | 1½ in. | 5 cts. |
| 2 in. | 10½ cts. | 2 in. | 6½ cts. |
| 2½ in. | 16¾ cts. | 2½ in. | 10 cts. |
| 3 in. | 22 cts. | 3 in. | 14 cts. |
| 4 in. | 31½ cts. | 4 in. | 20 cts. |
| 4½ in. | 38 cts. | 4½ in. | 25 cts. |
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# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Sea-kale.

In a recent article in the Cultivator I notice you have a description of sea-kale and method of growing it. Will you kindly tell me where I can secure the seed?—X. Y. Z., Healdsburg.

Any seedsman advertising in the Cultivator can probably supply you with seed. We know that Morris & Snow of Los Angeles carry it. Concerning the growing of sea-kale we may add further information taken from Bailey's Cyclopedia of Horticulture:

"Sea-kale is a large-leaved, strong, cruciferous perennial, the young shoots of which are eaten in the spring, usually after having been blanched. The plant is little known in North America, but it is worthy of general cultivation in the home garden, for it supplies an esculent of good quality at a season when vegetables are scarce. Sea-kale demands a deep, rich and rather moist soil, in order to give the best results and to maintain its vigor for a series of years. The plants require about as much room as rhubarb; that is, they should stand from 3 to 4 feet apart each way. The culture and general requirements are much the same as for rhubarb. The young shoots are blanched as they grow, in early spring. The blanching is accomplished by heaping fine, loose earth over the crown of the plant, into which the shoots grow, or by covering the plant with an inverted box or flower-pot so that the light is excluded from the growing shoots. These shoots are eaten before the leaves have begun to expand to any extent, and whilst they are crisp and tender. The vegetable is prepared in the same manner as asparagus.

"Sea-kale is propagated by root cuttings, and also by seeds. Quicker results are secured from cuttings. If strong cuttings, 4 or 5 inches long, are taken in early spring and grown in strong and rather moist soil, the plants may be strong enough for cutting the following spring; but it is usually better not to cut them until two years from starting. The cuttings may be placed where the plants are to stand permanently, or they may be grown in drills in a seed-bed. The latter plan is usually to be preferred, since it allows the plants to receive better care. Seeds give plants that are strong enough for cutting about the third year. The seeds are really fruits or pods, and each fruit may produce two or three plants. Usually the fruits are sown without shelling. The seedings are raised in the seedbed and transplanted when one year old to permanent quarters. On good soil, plants of sea-kale should maintain their vigor for five to eight years after they have come to cutting age. As soon as they begin to show signs of decline, new plants should be propagated. Although the plant is hardy in the northern states, it is always benefited by a liberal dressing of litter or manure in the fall. (Plants may be forced in hot beds or under the green house benches, as recommended for rhubarb.) Sea-kale has large, glaucous, cabbage-like leaves which make it a striking plant for ornament early in the season. It also throws up a strong cluster bearing many rather showy white flowers. However, the plant is rarely propagated for its ornamental value. Sea-kale grows wild on the seacoasts of southwestern Europe."—L. H. B.

### Red Spider.

During the last two years we have had no late spring rains here and our prune orchards have suffered greatly from the yellow mite or red spider. My young prune orchard is from one to two years old. Last spring I sulphured it several times, but only got temporary relief. This year I experimented with three or four acres by spraying with Paris Green, one pound of Paris Green to 200 gallons of water, the Paris Green being first dissolved with water poured from slacked lime. The mite seems almost as thick as ever. It is very difficult to get the spray on the under part of the leaves, where the red spider is so numerous. My neighbor also sprayed his young orchard with Paris Green, but got no better results than myself. These orchards had winter irrigation, but are not provided with summer irrigation. Some of the owners of the older orchards are sulphuring with seed sower and one large orchardist is spraying with Paris Green. The young trees are much worse affected than the older trees. I am writing for myself and several of your subscribers. We are anxious to use the best method of fighting this pest.—Subscriber.

Spraying with Paris Green is of no value. In fact, the sulphur spray is of little value, for when the work of the spider or mite is observable the pest itself is probably dead and its injury to the tree accomplished. Paris Green is efficacious in destroying only those insects which eat of the leaves. The red spider is a sucker, i. e., secures his nourishment from the young growth of the tree by inserting a sucking tube. If dry sulphur of the best grade is not satisfactory, it is probably due to the fact that the cool weather or dense foliage have not allowed the sun to penetrate sufficiently so as to vaporize the sulphur. Possibly you would find the following solution more effective: Potash 32 pounds, best grade of sulphur 37 pounds, salt 2 pounds, water 50 gallons. This makes a stock solution, each gallon of which may be diluted with 100 gallons of water. The potash, sulphur and salt can be mixed together in a large metal tub with a little water, when chemical action will at once set in, the whole mass will dissolve and begin to boil. After the boiling has ceased, the remainder of the water can be added.

### Belgian Hare Questions.

What is the best food for Belgian hares? Do they need water? Will water hurt them? Do they need salt? How young should they be bred?—H. M., Morgan Hill.

There is no one best food, as, like all other animals, they need variety. Grass, hay, oats, barley, rolled oats, wheat, bread, vegetable waste, roots, branches of trees and shrubs, fruit; in fact, anything the wild rabbits eat—taking into account, of course, the difference between a state of nature and the condition of an animal confined to a small space.

Certainly they need water. They can live a much longer time without it than most animals, particularly if fed succulent food, but they greatly enjoy a drink of cool, clean water; and so far from hurting them, its absence causes intense needless suffering. I have never known a mother to devour her young—a very common complaint—if she had plenty of good cool drinking water at kindling time.

Like all herbivorous animals, salt is an essential, yet they use very little of it. The best way to give it is to put a lump of rock salt in the hutch where they may get it at will, or fasten a small box containing salt to the wall of the hutch.

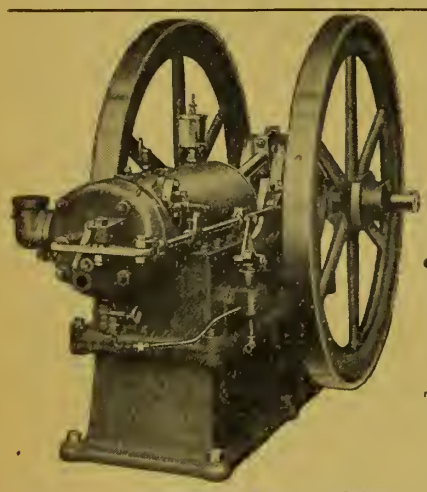
They may be bred at four months, but we never bred much under a year, as we desired fine stock. The litters are larger, stronger and in every way better from matured mothers than from stock bred too young.

Those who have breeding stock to sell have drawn pictures, rather out of perspective, of the requirements of hares. The truth is while they are amply able to care for themselves in a wild state, as we know too well, when they are domesticated and confined that ability is, of course, removed, and must be supplied by close attention on the part of the keeper.

They must be clean, judiciously fed with a variety of wholesome, suitable food, and must be bred with discretion. The persons who have been led to believe that they need only any kind of a pen, anywhere, any kind of food thrown in at any convenient time, a surfeit today and none tomorrow, are respectfully asked, for humanity's sake, to buy some cotton flannel and make your rabbits. It will be just as profitable and much more humane.—Bee Josephine O'Mealey, Kanova Ranch, Anderson.

### Amount of Water for Irrigating.

I have seen it stated that on a sandy soil a depth of two inches of water should be the maximum required to fill the first foot if applied every thirty days. Is this correct? Also is sub-irrigation successful for grass plats and vegetable gardens? If so, what is the best material to use for under-ground flumes? What dimensions should they be and how far apart should they be placed and at what depth? I am told that sub-

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irrigation is successful in Colorado. Of course I am aware that it proved a failure in the orchards of this state.—W. C. V. P., Redlands.

The amount of water required for best results depends so much on soil and sub-soil conditions, the crop and manner of its handling, etc., that it is impossible to give any arbitrary rule. One crop may require ten times the amount of water that another will. In a general way, though, it may be said that two inches should be sufficient if properly handled and if the subsoil is moist, not having lost its moisture through lack of cultivation.

As to sub-irrigation, we do not think a successful plant has ever been maintained for any length of time. In theory, and in practice for a short time, it is all right, but as the inquirer says, it proved a failure with orchard trees, and the same crowding of roots into the underground pipes would prevail in garden work, though to a lesser degree, and of course there would be intervals when no roots would be growing into the pipes. But the sub-irrigation plants are so expensive to install that we doubt if the results would justify the effort. However, it is a most attractive question, and we ask our subscribers who have had experience to write as to methods used and results. There are some modifications of sub-irrigation, such as the sinking of cans in the soil at certain distances apart. These cans are perforated and surface ditches run from one to another. On steep hillsides this method of irrigation has proved very successful. Let our subscribers give us further information.

### Seed Bed Stock Dying.

Can you give me any information as to orange seed bed stock dying off? The sweet seed is far worse than the sour, which was planted two months earlier in the spring than the sweet.—Subscriber, Hemet.

There might, of course, be a number of causes for seed bed stock dying: Too much water, too little water, water irregularly applied, or improper soil conditions. If the seed were sown properly and covered with a layer of soil topped with a layer of sand, then kept properly moistened, there is no reason why they should not do well. From the fact that the sour stock is doing better than the sweet, our guess would be that too much water has been applied and the seed or plants have decayed.

### Preventing Potato Scab.

Please give recipe for solution for preventing scab in Irish potatoes. How long should they be soaked and how soon after soaking should they be planted?—E. S., Turlock.

Immerse them two hours in a solution of formalin of the strength of one pound to forty gallons of water. The seed may be planted at once, or if not, should be spread on the floor to dry off. They should be planted in soil which has not grown scabby potatoes. Some prefer to use a solution of corrosive sublimate, one ounce to six gallons of water. Immerse the whole tuber an hour and a half in this before cutting.

The Harvey Spring Co. of Racine, Wis., has just issued a neat little circular setting forth the advantages of their bolster springs. It contains some good illustrations and testimonials from satisfied customers. Every owner of a farm wagon should have one of these bolster springs, as they are a great saving, not only to the wagon, but to produce which is being marketed. Those who have tried them say that they would not do without them if they cost twice the money. The circular will be sent free to anyone writing to the Harvey Spring Co., Racine, Wis., and mentioning the Cultivator.

## Veterinary

Answers in this column by Dr. R. T. Whittlesey, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Mange.

My horses I think have the mange. The skin is sore and rough, itches badly, and the hair is coming out in spots. What is the best remedy?—W. V. H., Porterville.

Make a solution of two ounces of formaldehyde in one gallon of water. Apply this to the affected parts daily with brush, rubbing it well in. Feed alfalfa hay exclusively, with enough grain so that the horses can do their work.—R. T. W.

### Lump On Jaw.

I have a cow that has a lump about the size of an egg on the side of her jaw. It grew very suddenly and I cannot account for it unless the horse kicked her. Is there anything I can do for it?—Subscriber, Douglas, Ariz.

This may be due to kick, as you think. If so, cut it out and treat with any antiseptic wash. Carbolic acid and water will do. If it does not heal, treat for lumpy jaw. Make a solution of potassium iodide, one pound, in one quart of water. Give dose of half ounce night and morning in the feed. —R. T. W.

### Worms.

My little dog coughs and chokes. He eats well, but is growing poor. I think perhaps worms come in his throat.—C. J. G., Huntington Beach.

The trouble is probably worms. Give a dose of twenty drops of turpentine in a teaspoon of olive oil three times daily. Give a strong salt water enema (saturated solution) once daily for two days, all he can possibly retain.—R. T. W.

**DR. WHITTLESEY'S VETERINARY REMEDIES.**

These are not ordinary mixtures but are from well tried formulas, used in an extensive practice in Southern California for nearly a quarter of a century. Dr. Whittlesey's Sulphur Arsenical Salve for deep fistulous or ordinary chronic, indolent sores such as, "Poll Evil," "Fistulas," "Quitters," "Thrush," "Scratches," "Warts," "Cellar sores" or "Sit-fasts." $1.00 per package postpaid. Printed directions. Dr. Whittlesey's Antiseptic Healing Powder. Forms a coating over raw surfaces, excludes air, flies and floating germs. Makes a cheap and convenient dressing for the many sores that occur to stock on the ranch. $1 full pound can postpaid.

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## SCHOOL OF AGRICULTURE.

The State University Farm was purchased with the intention of using it for giving instruction in agriculture. The Farm is serving this purpose in the largest possible way, since the same plant is being used in three different courses—the School of Agriculture during eight months of the year, the "Short Courses" for farmers given each fall and certain courses of the College of Agriculture. Students of the School of Agriculture receive their technical instruction from members of the faculty of the College of Agriculture. Thus while a boy who attends the School of Agriculture may not have as thorough or extensive a course as he would at college, he works under many of the same men, who are not only specialists in theory but men of wide practical experience as well. For example, the work in Horticulture and Viticulture, in Animal Industry and Veterinary Science, in Dairy Industry and in Poultry Husbandry, is similar to that in the College of Agriculture; and the same extensive appliances are available to make the instruction practical and valuable. In the Dairy course the students actually do the work of milk testing and butter-making; an orchard and vineyard are at hand in which to learn the principles of pruning and spraying, and the various branches of fruit production. A dairy herd, beef cattle, horses, sheep, swine and poultry, all are part of the equipment of the Farm, and used in the courses of the School of Agriculture. An Experiment Station is located on the Farm, and students are encouraged to watch the progress of the experiments, and to undertake experimental work of their own, in lines in which they are interested. The boy who cannot go to college may thus have a scientific and practical course in agriculture under first-class teachers. The School will open September 20th; a circular of information may be had by applying to the principal at Davis.

## FARMERS' NATIONAL CONGRESS.

The 29th annual session of the Farmers' National Congress will be held at Raleigh, N. C., beginning November 3. President Cameron has secured a number of excellent speakers of great ability and reputation.

The Farmers' National Congress is the only national agricultural organization existing exclusively for considering broad national agricultural questions and expressing the wishes of the farmers thereon. George M. Whitaker, 1404 Harvard street, N. W., Washington, D. C., is secretary.

Kerman shipments of cantaloupes have already begun. There are 250 acres in the district.

## Classified Liners

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FORTUNES IN SUGAR—STOCK FOR sale in a new sugar cane plantation. Small monthly payments will secure for you an interest in this great enterprise, that will pay you an annual income for life. Write for booklet, LOS HORCONES PLANTATION CO., 724 Grosse Building, Los Angeles, Cal.

TRUCK AND FRUIT GROWERS SEND me your address and I will tell you how to make money out of your produce. M. HILTON SMITH, Alice, Texas.

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WANTED — ORANGE SEED BED stock. SUNNY SLOPE LAND COMPANY, 215 Currier Bldg., Los Angeles, Cal.

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FOR SALE—SECOND HAND WINDmills, tanks, pumps, engines, hay rake, cultivator, mower, wood sawing outfit, spraying outfit, light wagons, anything a rancher wants secondhand. DEMMITT CO., 120 N. Main St., upstairs, Los Angeles, Cal.

FOR SALE—RENT OR EXCHANGE, boilers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main St., Los Angeles, Cal.

FOR SALE—NO. 3 PIONEER BARLEY crusher, made by the Chico Iron Works. Rollers, 10 x 20. Reason for selling is do not need it. For information write to G. F. MAIRES, Goleta, Cal.

FOR SALE—ONE SIX INCH BYRON Jackson dredging pump. Best of condition. BAILIE & BRANDT CO., 942 and 945 North Main St., Los Angeles, Cal.

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FOR TRADE—2 JACKS, 5 JENNETS, for Jersey or Holstein cows. OLIVER & ELTER, Dinuba, Cal.

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FOR SALE—1500 EUREKA LEMONS, 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. B. WARNER, Santa Ana, Cal.

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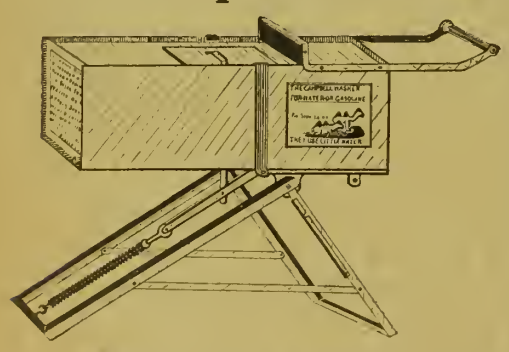

will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

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**2803 Folsom Street, San Francisco, Cal.**


# Household Department

## THE PLEA OF THE CITY ELM.

Long years, a watchman of the woods,
I grew;
The sanctuary of a thousand birds.
Sweetly the cardinal whistled, flashing bright,
Amid my springtide leafage; from my crown
The thrush at morn and eve breathed heavenly prayers;
The merry robin chose me for his nest,
And warred with barking squirrels for his rights.

Then came a day of ruin. Right and left,
The spicy woodland smoked; my comrades lay
Prey to the axe. The busy hands of man
Built in our ancient realm a human home.
I only left, with mutilated roots,
And crippled branches, strove to bear myself
As worthy warrior of the ancient world.

I sheltered with my boughs this human brood;
The children laughed to see the squirrels race
Along my rugged trunk; still, in the spring,
The piping oriole glanced from twig to twig,
And painted bluejays cheered the winter hours.
How grateful was my shadowy green in heat!
And all the year beneath the sun and moon
My boughs drank in the common fainting air,
That, by the secret power vouchsafed to me,
I breathe back ever to refresh the world,
Purified, and with healing in its wings.

But now, a weary state is mine. A swarm
Of smoking roofs surround me; noxious airs
Arise from every side; my roots are pent
In case of stone, and no enriching soil
Is given to feed them; scorching winds and dust,
Through the long summer days, my tender leaves
Shrivel and clog; and bring with them a blight
That kills off branch on branch. Even the weight
Of burdensome dead wood they spare me not;
And yearly weaker I, and stronger death.

Man sways my fate, for men my life is given.
Well have I served, and many years might serve.
Must I thus pass, neglected, from my post?
No longer look upon the silent stars,
And breathe the joyful sunshine, gathering thence
Strength for my sweeping limbs, my traceries
Of winter twigs, my burst of springtide bloom,
The summer glory of my towering green,
My shadowy cool, my power to bless mankind?

O, Master, generations yet to come,
Shall they enjoy the wholesome good I give?
Oh, hear this timely plea, and help the sum
Of long years' growth; help noble beauty live!

—Marian Mead, Chicago, Ill.

## MAY FLOWERS.

BUTTERFLIES, rainbow and tinsel, with thought only for the present moment, pleasure to the eye and senses," murmured Miss Ratcliffe more to herself than to the professor. There was no envy in her voice, no sarcasm, only just philosophic speculation with perhaps a little wonder. And in her eyes was the same expression as when analyzing a new bug.

The professor regarded her admiringly, respectfully. There was much the same look of impersonal wisdom in their eyes, and much the same network of fine, studious wrinkles gathering along the base of their brows. They had delved into the depths of knowledge for exploration's sake. And both were comparatively young, with untaxed strength and untried fields ahead.

But as the professor's gaze followed hers through the window to the butterflies and tinsel, there was an unusual wistfulness in his eyes. Miss Ratcliffe's profile was Grecian, without flaw. The professor never felt any scholastic diffidence in her presence, but was always calm and self-contained, as when immersed in his studies. But as his gaze followed her out to the gayly-dressed girls swinging about the maypole, something very like longing showed in his eyes.

"They are very happy," he said; "very happy and joyous and bright colored, like butterflies. But they are young ladies now, and Miss Carlton is 20, I believe. The butterflies are irresponsible, however, and meaningless joy is their mission. But some of them have unusual ability, as Miss Carlton; and precious time is consumed in arranging tableaux and romping and swinging around a pole like that."

"Miss Charlton has been the mainstay at her home, I understand," said the professor gently; "and I am told she earned the money to come here herself, by working in a factory."

"Yes," regretfully, "she is a girl of much force of character. That is why I deplore the scene out there. Life is not long enough to learn all that every one ought to know, and with Miss Charlton's abilities the idle hours could be made to yield a vast store of knowledge for either personal satisfaction or an extra means toward a livelihood."

"Sometimes I have felt lately that our lives may have lacked some of this color and idleness, and—and fun," the voice still gentle. "Of course, we could not change our lives even should we desire; but I—I think a little color added might make us happier."

"I have not felt that way at all," returned Miss Ratchliffe, thoughtfully. "Moreover, I feel that, as head of the school, Professor West ought to go out and speak to the girls. They all have a strange liking for you, and would listen where they would to no one else. It is a crucial time in their lives, and no better opportunity could be had to advise them than now, while they are dancing and singing around the pole, covered with their May flowers. Really, it is a duty with you professor."

Professor West rose reluctantly, an unmistakable color now in his face.

"Well, if you really think so, Miss Ratcliffe," he said, "I—I—of course the school comes first."

As he crossed the lawn, the whirling girls paused for a moment to catch their berath. Then they caught sight of the handsome, strongly-built figure coming toward them, and several of the girls started forward. Miss Charlton alone did not advance. She was standing by herself a little to one side. Professor West spoke a few words with the others, then went straight to her.

"I—I would like to say a few words to you, Miss Charlton," he began. "All this color and gayety and—and fun out on the lawn, where everybody can see seems," as the color began to rise in her face, "er—very nice, and I like it. We need more color and fun in our lives, and you have been very good to us in this way since you came. I—I am out here to thank you. My life has been very colorless, so far, and lately I—I have thought——" He was beginning to flounder again at something he saw in her eyes, and added. "I would rather have some of your joyousness than anything else in the world, and— and, will you be my wife, Margie?"

"Professor West!" The girl started and drew back; but he saw it plainly in her eyes now.

"You do love me?" he said eagerly.

"Y-es, but I—I am not fit."

"It is I who am not fit. I am too sober and plodding. Will you be my wife?"

"Of course," simply, "if you want me."—Spokesman Review.

# About the House

WHERE one is fortunate enough to have a bath room and sink in the house, much is gained to health by keeping the run clear of obstruction, with an occasional flushing of hot soda water.

Look after the refrigerator closely now, for it may prove a very dangerous article unless it is properly cared for. Bits of spoiled meats and vegetables breed the germs of typhoid and many other deadly diseases, and a careless or hurried servant is liable to overlook the timely removal of such offensive and dangerous agents.

A good remedy for summer complaints or dysentery is made with one tablespoon level full of wheat flour and an equal amount of pulverized cut loaf-sugar, mixed with enough good brandy to make a stiff dough, and do not mix more than this at a time as it must be used fresh. Take a half teaspoonful of this every half hour until relieved.

If you want an excellent toilet powder to use for heat, perspiration or any skin irritation, you can make it yourself and it is much cheaper and better than any you can buy ready prepared. Buy a pound of plain starch, crush it fine and sift through thin muslin, then add a little soda and a large tablespoonful of borax, mix well and keep in a talcum powder can. This is excellent for perspiring hands or feet, and the disagreeable odor from perspiration will be instantly removed, as borax is a deodorizer and an antiseptic.

If you suffer with tired and swollen feet after taking long walks, sprinkle half a teaspoonful of boracic acid powder inside the sole of each shoe before starting out; this absorbs the dampness and keeps the feet in good condition. If the feet and hands are inclined to be moist and tender they should be rinsed frequently in cold water in which a little alum and powdered borax are dissolved, and if this solution is applied to the face before going out in the sun and allowed to dry on the skin, it will prevent tan and sunburn, and if one enjoys going out in the sun and air, tan and freckles are a natural result unless some precautions are taken.—M. A. Y.

"I believe in work, hard work, and long hours of work. Men do not break down from overwork, but from worry and dissipation.—Gov. Charles E. Hughes."

### DRY CLEANING.

Dry cleaning at home is almost regarded in the light of a hobby by many women. A word of warning is, however necessary at the outset before dry cleaning by means of gasoline is commenced.

Few chemicals which are within the range of the amateur are more explosive, and a large quantity of the gasoline should never be kept in the house if possible, nor should the cleaning process be carried on where there is artificial light.

Until the garments cleaned are thoroughly dry they should not be placed close to an open stove or fireplace. When possible the whole process should begin and end in daylight.

To clean blouses of silk, crepe de chine, or other materials, an earthenware or an enameled jar or pan with a cover should be used and kept strictly for that purpose.

The article to be cleaned should be placed at the bottom and covered with gasoline and the lid put on. After twenty-four hours the jar may be opened and the blouse gently squeezed with the fingers until all the dirt is removed.

The gasoline should then be poured off into a bottle and placed with the rest of the spirit, and after twenty-four hours may be used again, the liquid being poured off slowly without shaking, while the dirt remains in the form of a sediment at the bottom of the bottle.

### THE HEALTH FAD.

Christian Scientists cure disease by denying its existence; the mental scientists deny that the Christian Scientists are right; the vegetarians arrive at purity by means of a selected diet; now the Episcopal Church, perceiving the drift of things, sends out its healing missionaries. And they all, whether they be Christian ministers or red Indian Shakers, accomplish in individual instances what they essay. But through the publicity of such healing they do still more, thanks to the subtle power of suggestion. The results of their achievements blazoned everywhere by the press keep the minds of plastic and unstable people on the alert for some new symptoms, some fresh unhappiness, or source of fear, and the question frankly faces us if by these means disease is not created faster than it can be cured. Health is a dangerous topic for those physically healthy. In searching for it, one often loses it. Its persistent consideration dilutes the joy of living and nurtures invalidism, and thereby strikes at our power to love and benefit mankind. It must have been the observation of some sect of hypnotized seekers for personal health and individual happiness that led Stevenson to write: "Whether we look justly for years of health and vigor, or are about to mount into a bath chair, as a step toward the hearse, there is but one conclusion possible; that a man should stop his ears against paralyzing terror and run the race that is set before him with a single mind."—Appleton's.

### THE REAL THING.

"My furs are like those," exclaimed little Louise, while walking through the store.

"Why," exclaimed her mother, 'you have no furs of any kind!"

"Yes, I have," protested the child, "and they are lined with kittens, too."—Lutheran Observer.


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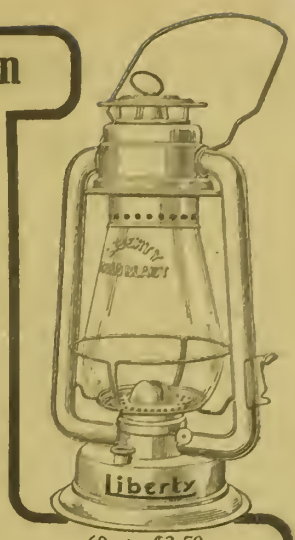


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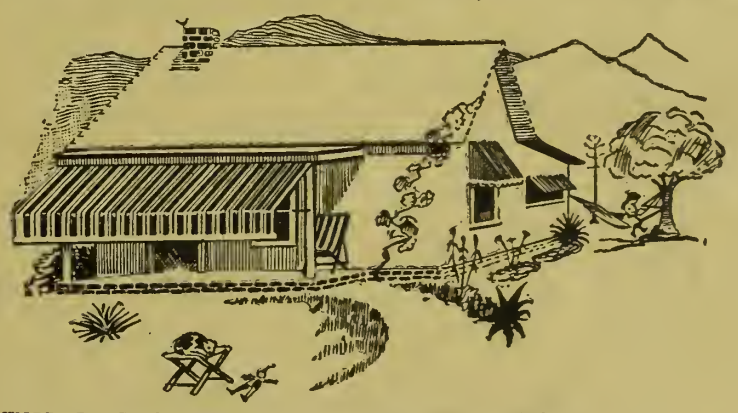

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# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, July 21, 1909.

### Butter.

Butter holds its advance of last week with firm market conditions.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

Creamery per roll .....55@60
Cooking .....23¾

### Cheese.

Southern California Anchor .....19
Northern fresh .....17
Anchor Young America .....20
Domestic Swiss .....20
Imported Swiss .....30

### Eggs and Poultry.

Eggs remain eactly as last week with no indication of immediate change.

Paying price f. o. b. L. A. are:
Eggs .....30@32
Case count buying price .....27

Dealers pay for live poultry f. o. b. L. A.:
Hens per pound 3½ up .....13@14
Stags and old roosters .....8
Fryers 2 to 2¾ lbs .....19
Broilers 1¼ to 2 lbs .....19
Broilers 2 lb .....19
Roasters 3 lbs and up .....19
Turkeys .....23
Geese .....12
Ducks .....12@13
Squabs .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds.....7½
Prime steers .....4@4¼
Heifers .....3½@3¾
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.25@3.50
Wethers .....4.50@5.00

### Potatoes.

Wholesale prices are:
New sweets per lb .....6@8
Early Rose local .....1.25
Burbank local .....1.35
New per cwt .....1.25@1.50

### Onions.

Wholesale quotations:
Coachellas crates .....75
Coachellas sacks .....1.25
Silverskins, local .....75@1.00
Northern Yellow Danvers .....1.25

### Vegetables.

Artichokes locals .....60@75
Asparagus .....3@6
Beets per sk .....90
Beans string .....2@3
Bell peppers .....8@10
Cabbages per sack .....50@60
Celery per doz .....75@1.50
Chili per lb .....25
Chili dried .....9@10
Cucumbers per box .....25@50
Cauliflower per crate .....1.25
Carrots per sk .....90
Corn per sk .....1.50
Egg plant .....8@10
Green onions per doz bunches ..15@20
Summer squash per box .....35
Lettuce choice .....1.00@1.25
Oyster plant .....50
Peas per lb .....4@6
Parsley doz .....20@25
Parsnips .....15@20
Rhubarb Northern per box .....2.00
Rhubarb Crimson Winter per lb ..3@5
Radishes per doz .....15@20
Spinach per doz .....15@20
Turnips sk .....90
Tomatoes crate .....1.25@1.50

### Citrus Fruits.

Valencias .....2.50@2.75
Grapefruit .....2.00@3.00
Lemons .....2.50@5.00
Unpacked .....1.00@1.35

### Fresh Fruits.

Wholesale prices on the market are:
Apricots per crate .....75@90
New apples .....50
White Astrachan .....2.00
Red Astrachan .....1.25
Alexanders .....2.00@2.25
Cherries black .....4@6
Cherries per lb .....2@5
Currants .....60
Figs .....60@75
Grapes 4 basket crate .....75@1.25
Gooseberries .....10
Loganberries .....3
Loquats per lb .....3
Peaches box .....50@60
Pears per lb .....3½
Plums .....50@1.00
Prunes .....50@1.00
Raspberries .....4@5
Blackberries .....3@4
Strawberries .....3@4
Watermelons per doz .....75@1.50

### CANTALOUPES.

Cantaloupes ponies .....2.10
Standards .....2.35

### Dried Fruits.

Wholesale prices are:
Apricots .....8@9
Evap apples fy per lb .....10@11
Figs loose .....5
Peaches .....5@6
Pears .....9
Plums pitted .....8@9
Nectarines .....7½@9
Prunes .....7@8

RAISINS—Muscatels, 2-crown, loose, 50-lb. boxes, lb., 3½c; do., 3-crown, 4c; do., 4-crown 5c; sultanas, bleached, lb., 9c; do., unbleached, 3½@4c; new seeded raisins, 16-oz. packages, 6c; do., 12-oz. packages, 5c.

### Beans Dried.

Wholesale prices are:
Pink No. 1 .....3.75
Limas per ctl .....4.50
Black eyes .....3.50
Lady Washington .....5.50@5.75
Small White .....6.50@6.75
Garvanzas .....4.00@4.50

### Nuts.

Almonds IXL per lb .....15
Pecans polished .....15@17
Peanuts California .....5
Walnuts No. 1 .....12@13
Walnuts No. 2 .....9@10

### Honey.

Wholesale quotations:
Extracted water white .....7
Extracted Light Amber .....5½@6
Comb Water White .....15
Comb white .....14
Beeswax .....25

### Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:
New Barley hay .....9.00@13.50
New alfalfa local .....12.00@12.50
New alfalfa Imperial .....10.50@11.50
Wheat hay .....13.50
Tame oat .....14.00@15.00

### Grains.

Wholesale selling price f. o. b., Los Angeles:
Wheat new per ctl .....2.25@2.30
Kaffir corn .....2.00
Corn Eastern bulk .....1.95
Egyptain corn .....1.85
White oats .....2.25
Seed Rye .....2.00

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn .....2.00
Shorts .....1.95
Bran .....1.70
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....2.50
Feed meal .....2.05
Cracked wheat .....2.50
Rolled Barley .....1.50

## San Francisco Markets

SAN FRANCISCO, July 20, 1909.

### Butter.

Butter held up to last week's quotations till Monday when a half cent decline was made. Market weak. Packing advanced one cent.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:
California extras per lb .....27½
California firsts .....27
California seconds .....25½
Packing .....23½

### Cheese.

California flats .....12½@14½
Cal Young America fy .....14½@15½
Young American Oregon fy .....15½

### Eggs and Poultry.

Eggs are in demand and show a satisfactory advance with good demand.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:
Fresh ranch .....21½@31
Hens per doz .....4.50@9.00
Roosters .....4.00@10.00
Fryers per doz .....5.00@6.50
Broilers .....2.50@4.00
Geese per pair .....1.50@2.00
Ducks young .....5.00@8.00
Pigeons young .....1.00@2.00

### Live Stock.

San Francisco prices gross weight:
Steers .....3@4
Cows and heifers .....2@3½
Hogs .....4@7½
Calves per lb .....3½@5
Milk lambs .....4¾@5
Wethers No 1 .....4
Ewes No 1 .....3½

### Potatoes.

Wholesale market quotations:
New crop .....75@1.00

### Vegetables.

Wholesale quotations:
Asparagus per box .....50@1.25
Bell peppers per box .....75@1.00
Brussels sprouts per lb .....3@5
Cabbage per box .....2.00@2.25
Cauliflower doz .....75@1.00
Carrots per sk .....65@75
Cucumbers per box .....50
Chili peppers per box .....60@75
Corn per sk .....1.50@2.00
Egg plant per box .....1.25@1.50
Beans limas .....5@6
Green peas per sk .....1.25@1.50
Onions green per box .....50@60
Rhubarb per box for bay .....1.25@1.50
Squash per box .....25@35
String beans .....2@5
Tomatoes Cal .....20@75
Wax Beans .....1½@5

### Onions.

New red per sk .....35
Yellow .....75

### Citrus Fruits.

Valencias .....2.50@3.25
Grapefruit .....1.50@3.00
Lemons .....2.00@5.00
Limes .....5.50@6.00

### Fresh Fruits.

Apricots box .....35@50
Apples new green .....75@1.25
Crab apples .....75@1.00
Cherries loose black per lb .....3@6
Figs blk box single layer.....60@1.00
Grapes Sweetwater .....1.00@1.25
Grapes seedless .....1.25@1.50
Malagas .....1.50
Huckleberries per lb .....15
Gooseberries per drawer .....40@50
Logans per chest .....2.00@3.00
Malindas per chest .....2.00@3.00
Cherry plums per box .....25@35
Peaches per box .....40@50
Plums boxes .....25@40
Plums Tragedy .....65@90
Pears .....75@1.50
Longworth per chest .....3.00@5.00
Nutmeg standards .....1.00@1.75
Nutmeg melons ponies .....50@1.50
Nutmegs, Rivers .....75@1.00
Pineapples per doz .....3.00@6.00
Pears box .....60@1.50
Raspberries per chest .....5.00@7.00
Watermelons per doz .....1.50@2.25

### Dried Fruits.

Prunes 4-size basis .....2½
Santa Clara .....2¾
½c premium for larger sizes
Apricots per lb .....8¼@10
Peaches—Choice ...4; Fancy ...6@7½
Apples evap .....5@7½
Pears .....5@8½
Figs .....2½@4
Nectarines .....5@6
Pitted Plums .....7@8

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do, No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12, 3¾c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached, 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

Walnuts soft shell .....9½
Hard shell .....6@8½
Ne Plus Ultra .....12
Almonds Nonp .....11½
Pecans .....15@17
Chestnuts .....2@10
Peanuts .....5@6
Pine nuts .....22½@25

### Beans Dried.

Limas .....4.20@4.25
Pink .....2.75@2.85
Small white .....6.50
Large white .....5.25@5.40
Black eyes .....3.35@3.50
Red kidneys .....3.60@3.70
Garvanzas .....2.75@3.00
Bayo .....5.00@5.25
Horse beans .....2.00

### Hops.

Hops 1908 crop .....8@12
Old crop .....2@6
1909 crop contracted for at ....13@16

### Honey.

White comb .....14@15
Light Amber .....10@12
Extracted W W .....7@8
Extracted light amber .....6@7½
Beeswax per lb .....24@28

### Hay.

Scott & Magner say under date of July 17:—Receipts of hay on the San Francisco market for the week ending today have amounted to 3700 tons, which is a little increase over the shipments of the previous week.

Fancy wheat hay, of which only a few cars have arrived this week, have commanded our topmost quotations, but on all other types of hay the movement has been slow, quiet, and much difficulty has been experienced in moving off the bulk of the hay from the cars in time to save $6.00 per day car demurrage.

A little hay has been moved off for foreign shipments, but it is nearly impossible to hold this trade in competition with the northern prices, on account of the high prices prevailing in this market.

Alfalfa hay has been arriving in small lots, and as the demand is not brisk, sales of alfalfa hay have dragged somewhat, although the market is practically unchanged.

What straw has come in during the week has been satisfactorily disposed of, and the market on this article at this writing can be quoted as fairly steady under a light demand.

This week's quotations are:
Choice wheat hay .....17.50@18.50
No 1 wheat or wheat & oat 16.00@17.00
No 2 wheat or wheat & oat 14.00@15.50
Choice tame oat .....16.50@17.50
Other tame oat .....13.00@14.50
New crop wild .....12.00@15.00
Stock hay .....8.50@10.00
Alfalfa .....10.00@14.00
Straw .....60@75

### Grains.

Wheat No. 1 .....2.07½@2.12½
Barley .....1.40@1.48¾
Oats white .....1.90@2.15
Oats gray .....2.00@2.10
Rye new crop .....1.40@1.45
Corn Egyptain .....1.60@1.65
Corn Cal sm round .....1.80@1.87½
Alfalfa seed, Cal .....16@18
Mustard brown .....3¾@4½
Millet .....2½@3
Broom corn seed per ton .....23.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton .....39.00@40.00
Cracked corn per ton .....40.00@41.00
Rolled barley per ton .....31.00@32.00
Rolled oats per ton .....36.00@39.00
Oil cake meal per ton .....38.50@40.00
Cocoanut cake per ton .....25.00@26.00
Middlings .....33.00@35.00
Mixed feed per ton .....26.00@30.00
Shorts .....31.00@32.00

## Citrus Market

LOS ANGELES, July 21, 1909.

The orange market remains in fairly good condition in the far eastern points while the general tone west of the Mississippi is exceptionally good. That is, this is true as to Valencias. A small quantity of sweets, seedlings and other than Valencias, is still going begging and bringing practically nothing to the grower. A few sales have been made that have not brought freight and packing charges, but as a rule there have been but few red ink returns. Fruit is going forward very rapidly and a clean-up is expected before the end of the season.

The lemons are not as much in demand as a few weeks ago, but the price is yet much better than a year ago at this time. Shipments from the state have been exceptionally heavy and there are at this writing more than forty thousand boxes afloat in excess of same date last year. Notwithstanding this, exceptionally good fruit will bring $4.00 to $5.00 f.o.b. local points. Some indifferent fruit is meeting with poor demand and sometimes barely brings charges.

### Shipments.

Total shipments of citrus fruits to date this season are 33,139 cars, of which 28,219 were oranges and 4,920 were lemons. To same date last year, 26,522 cars of which 22,748 were oranges and 3,774 were lemons.

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NEW YORK, July 16.—Eight cars oranges sold. Market firm on good fruit. Weather hot, cloudy. Threatening rain.

VALENCIAS— Average.
Euclid, Euclid Fruit Co.....3.20
Uplander Euclid Fruit Co.....2.70
Halo California Citrus Union .....1.50
Quality ST Exchange .....3.25
Security ST Exchange .....2.85
Titus Ranch San Marino GPA ....3.25
El Toreador San Marino GPA ....2.10

LEMONS—
Flower .....2.90
Plain Ends .....2.60

---

ST. LOUIS, July 16.—Six cars sold. Market firm on good stock. Weather warm.

LEMONS— Average.
Arab SA Exchange .....2.50
E E E ST Leffingwell .....3.15
Extra Choice ST Rossmoyne .....2.70
White Cross Limoneira Co .....2.30
Duck SA Exchange .....2.30
Sourballs, ST Leffingwell .....2.45
Standard ST Rossmoyne .....2.45
White Cross Limoneira Co .....2.45

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CLEVELAND, July 16.—Two cars seeds, 1 sweet, 1 mixed, 2 lemons. Market higher on lemons, unchanged on oranges.

LEMONS— Average.
Commercial AH Prenda .....2.75
Pet, SA Exchange .....4.75
Arab SA Exchange .....4.50
Greyhound .....3.60
Duck SA Exchange .....3.50

---

BOSTON, July 16.—Five cars sold. Cloudy, muggy. Market easier.

VALENCIAS— Average.
Rey ST Fernando .....2.95
Pine Cone SB Highland .....2.85
Butterfly Covina Ex Covina .....2.70
Champion A C Denman Sons .....3.20
Tunnel ST Fernando .....2.50
Arrowhead SB Highland .....2.40
Century Covina Ex Covina .....2.20
Climax E Peycke Co .....2.50

LEMONS—
Pet SA Exchange .....3.90
Greyhound .....3.60

---

PITTSBURG, July 16.—Six cars sold.

Market steady, both oranges and lemons. Weather fair.

| VALENCIAS— | Average. |
|---|---|
| Tulip TCC Porterville | 1.85 |
| Stock Label TCC Porterville | 1.50 |
| LEMONS— | |
| Arab SA Exchange | 3.80 |
| Duck SA Exchange | 3.40 |
| Greyhound SA Exchange | 3.50 |
| Golden Rule Riverside Ex Riv | 3.35 |

PHILADELPHIA, July 16.—Two cars navels, 2 seeds, 1 sweet, 2 valencias, 1 mixed, 1 lemon sold.

| NAVELS— | Average. |
|---|---|
| Owl OK Exchange | 1.00 |
| Stock Label Growers Fruit Co | 1.15 |
| Independent Growers Fruit Co | 1.40 |
| VALENCIAS— | |
| Rose Red OG Assn | 2.80 |
| Blue Mtn P & McJvitt | 2.50 |
| Honest Pack Tustin P Co | 2.55 |
| Lucky Tustin P Co | 2.30 |

CINCINNATI, July 16.—Four cars oranges and 2 cars lemons sold. Steady on both oranges and lemons. Warm.

| VALENCIAS— | Average. |
|---|---|
| Zebra, TCC Lindsay | 2.10 |
| Blue Label TCC Lindsay | 2.50 |
| Tulip TCC Porterville | 1.90 |
| Full Value TCC Lindsay | 1.85 |
| Red Label TCC Lindsay | 2.10 |
| LEMONS— | |
| White Cross | 3.75 |
| Troubadour AH Arlington | 3.45 |

CLEVELAND, July 19.—One car Valencias, one seed, one sweet, two mixed, one lemon sold. Market lower on lemons. Prices low on oranges on account of the quality.

VALENCIAS—Arcadia, St. Pico, $2.80; Burro, $2.15; Jasmine, D. M. Duarte, $2.15; Big R, S B Rialto, $2.10.

ST. MICHAELS—Tally Ho, $2.70; Big R, $2.35. HALVES—Tally Ho, $1.25; Big R, $1.15.

| LEMONS— | |
|---|---|
| Big R, SB Exchange Rialto | 3.05 |
| Palm Tree AH Exchange Prenda | 2.00 |
| Squirrel AH Exchange Prenda | 2.60 |
| Commercial AH Exchange Prenda | 2.00 |

ST. LOUIS, July 19.—Warm. Market is firm on good stock Valencias. Eight cars sold.

| VALENCIAS— | Average. |
|---|---|
| Oriole VC Ex Fillmore | 2.50 |
| Tunnel ST Ex Fernando | 3.10 |
| Fairy H Fuller & Sons | 3.00 |
| Rey St Fernando | 3.20 |
| Fuller's H Fuller & Sons | 3.25 |

ST. MICHAELS—Rey, $2.60; Tunnel, $2.35. Halves—Tunnel, $1.15.

| LEMONS— | |
|---|---|
| Troubadour AH Ex Arlington | 2.10 |
| Tunnel ST Ex Fernando | 2.90 |
| Randolph's Stock Label | 1.90 |
| Green Crown ACG Ex Azusa | 2.55 |
| Urchin ST Ex Fernando | 2.35 |

BOSTON, July 19.—Twelve cars sold. Favorable. Unchanged on oranges, easier on lemons.

| VALENCIAS— | Average. |
|---|---|
| Stag ACG Ex Glendora | 3.65 |
| Pine Cone SB Ex Hihgland | 3.00 |
| Volunteer SA Exchange | 3.00 |
| Redlands Best Mutual O Dis | 2.95 |
| Cal Sunshine OG Cash Assn | 2.50 |
| Pointer ACG Exchange Glendora | 2.50 |
| Arrowhead SB Ex Hihgland | 2.20 |
| Elephant OG Cash Assn | 2.95 |
| Titus Ranch San Marino GPA | 2.95 |
| El Toreador San Marino GPA | 2.45 |

LEMONS—Pet, SA Ex,- $4.10; Grey hound, $3.75.

PITTSBURG, July 19.—Fifteen cars sold. Market improving, especially on good stock oranges. Fairly steady good stock lemons. Cool.

| VALENCIAS— | Average. |
|---|---|
| Hiawatha TCC Lindsay | 2.70 |
| A-One E Peycke C | 2.05 |
| Climax E Peycke Co | 1.55 |
| Tulip TCC Porterville | 2.60 |
| Owl OK Exchange | 1.80 |
| Ruby Cal Citrus Union | 1.85 |
| Palm Tree AH Exchange Prenda | 2.40 |
| Stock Label TCC Porterville | 1.60 |
| SWEETS— | |
| Fiesta Riv Pachappa Station | 1.85 |
| Floral SB Exchange Colton | 1.65 |
| Pond Lily Riv Ex Pachappa | 1.60 |
| Owl OK Exchange | 1.25 |

ST. MICHAELS—Palm Tree, $2.25; Pond Lily $1.95; Pomona, $2.30. HALVES—Fiesta, $1.05.

NAVELS—Lincoln, $1.35. BUDDED—Pomona, $1.50; Parrot seeds $1.70.

GRAPEFRUIT—Parrot, $1.25.

| LEMONS— | |
|---|---|
| Green Crown ACG Ex Azusa | 3.15 |
| Housewife Riv Arlington | 2.25 |
| Pride of Cal Riv Arlington | 1.80 |
| Blue Jay OK Exchange | 2.75 |
| Pride of Cal Riv Arlington | 1.95 |
| Circus Sparr Fruit Co | 3.45 |

PHILADELPHIA, July 19.—One car navels, three seeds, two sweets, two mixed, one lemon sold.

| SEEDLINGS— | Average. |
|---|---|
| Gabriella Ind F Co | 1.55 |
| Selected N W Blanchard | 1.10 |
| California Orange Riv Ex Riv | 1.45 |
| Riverside Ogs Riv Ex Riv | 1.35 |
| Stearns Cal Citrus Union | 1.15 |
| Red Globe Riverside Exchange | 1.65 |
| Red Mtn Riv Ex Riv | 1.50 |
| SWEETS— | |
| California Orange Riv Ex Riv | 1.30 |
| Selected N W Blanchard | 1.35 |
| Pointer ACG Glendora | 2.05 |
| Big R SB Exchange Rialto | 1.45 |
| VALENCIAS— | |
| Stag ACG Glendora | 3.55 |
| Hunter ACG Glendora | 2.45 |
| Pointer ACG Glendora | 3.15 |

CINCINNATI, July 19.—Warm. Steady on lemons. Weak on oranges. Three cars oranges, two cars lemons sold.

| LEMONS— | Average. |
|---|---|
| Homer QC Exchange Corna | 2.45 |
| Camel | 1.85 |
| Greyhound SA Exchange | 3.75 |
| Duck | 1.95 |
| VALENCIAS— | |
| Coyote | 1.90 |
| Pico ST Ex Whittier | 2.30 |
| Stork SA Exchange | 1.25 |

## SUGAR BEETS AND BEET SUGAR.

Though sugar can be extracted from many plants, the world's supply of sugar comes at present from only two plant species, sugar cane and sugar beets, and it comes about equally from each. The former is grown only in tropical or subtropical climates, the latter only in temperate climates.

The great bulk of the beet sugar consumed is made in European countries, Germany, Russia, Austria-Hungary, and France being the leading producers. But in recent years the young and rapidly growing beet-sugar industry of the United States has come into prominence. There are now 64 active beet-sugar factories in this country located in 16 different States. Last year the farmers of these States harvested about 365,000 acres of beets, and delivered to the factories 3,415,000 tons of beets. From these nearly 426,000 tons of refined sugar was made, the yield of beets per acre was 9 1-3 tons, and the yeild of sugar per acre of beets was 2,334 pounds.

The U. S. Department of Agriculture has just issued its annual report on "Progress of the Beet-Sugar Industry in 1908." One marked feature of progress is seen in the improved quality of the beets grown. The entire beet crop for 1908 averaged 15¾ per cent of sugar in the beets. The factory processes have also been improved until the refined sugar produced is about four-fifths of that contained in the beets.

One of the instructive features of this report is an account of the use of by-products. The beet pulp from which the sugar has been extracted is a valuable stock food, and vast quantities of it are fed in the fresh state to cattle and sheep. If finds especial favor with dairymen. A dozen or more factories have installed plants for drying pulp. With this is mixed molasses, the product being put on the market as "dried-molasses-beet-pulp." The molasses is also extensively used in the manufacture of alcohol.

The prospects for further development of the industry are reported to be good. Plans are on foot for the building of several new factories.

## DRY FARMING.

Dry land farming in order to succeed, means better farming, says Campbell's Farmer. Where the work is done intelligently and diligently and at the right time there are too many shining examples of splendid harvests on dry lands to warrant the opinion that they can not be successfully farmed. To make these lands produce good crops observe these points:

1. Water is essential.
2. You can store water by tillage.
3. Seven to ten inches more water is found beneath a surface which has been summer tilled than beneath an untilled surface adjoining.
4. Plow five or six inches deep.
5. Harrow immediately after plowing before the furrows dry out.
6. Keep a dust mulch by harrowing during the summer. Don't let weeds grow and waste the soil water.
7. Harrow the grain in the spring.

Humus in the soil indicates, in a large measure, its fertility. This is especially true of sandy soil.

## SPONTANEOUS COMBUSTION OF HAY.

When alfalfa hay is stacked or put away in the barn too green it is apt to heat and may in extreme cases become so hot as to take fire and burn. In such cases care should be taken to admit no air into the heated mass, which will then be unable to burn for lack of oxygen. If this heating process is not carried too far it results in what is known as brown hay. In this form it is still well relished by stock and apparently loses none of its feeding value.

Cotton planters in the Imperial Valley will be putting seed into the ground until the end of this month. One rancher in the Valley will plant 220 acres of cotton this season.

## SHEEP SCAB AND ITS TREATMENT.

In a recent issue of the Cultivator there appeared an article by a Missouri writer, containing various formulas for dips, all of varying degrees of difficulty of preparation, and in the same article reference was made to certain dips which had been offered to the trade in "this state" which had been found inefficient. The credit for the article was given to the Missouri writer, but thinking perhaps the words, "this state" might convey the impression to our sheep breeders that the state of California was referred to, we wish to state that while that may be true of the state of Missouri, in our own state there are some excellent dips offered by the trade. One we have in mind, which has been given every test and proven effective, is known under the trade name of "Germfoe," a positive germ destroyer, antiseptic, disinfectant and insecticide.

It is made of coal-tar oil. Such dips are the very best: the most effective and perfectly harmless. The wool is improved by their use; as they not only cleanse but leave no stain and give a soft texture. Caution must be used with carbolic dips and those that contain petroleum; also with sulphur-lime and tobacco dips. And none of these dips can compare in effectiveness with coal-tar dips.

But such dips differ very much. A coal-tar dip depends for its activity upon the cresylic acid it contains. Germfoe is absolutely guaranteed to be made from an imported oil containing 25 per cent cresylic acid. Most dips sold in the United States are made from domestic oil and they run about one-half the strength of the imported, although great claims are made for them. Germfoe has been approved by the U. S. Dept. of Agriculture for the treatment of sheep scab in the proportion of one part Dip to 69 parts water. This is one of the highest dilutions permitted by the Department.

This product has been advertised by the West Coast Mill Co. of Los Anegles, and by it has been placed on many ranches of California. The firm is so thoroughly reliable and so guarantees its product that the Cultivator feels safe in assuring its readers that this particular article, "Germfoe," is most thoroughly effective.

## MUTUAL INSURANCE ASSOCIATION.

On another page appears the advertisement of the California Mutual Live Stock Association, whose general offices are at Oakland. Their references and depositories are The First National Bank of Oakland and the Security Savings Bank of Los Angeles.

Among the reasons advanced by this company for live stock owners to insure with them is the fact that it is the only institution of the kind organized under the laws of California with a home office in this state. They insure live stock against death from disease, fire, lightning, tornado, cyclones and every casualty; also through accident which may necessitate the death of any animal. Losses are paid promptly without discount and without delay. The company has a guaranty deposit with the state treasurer for the protection of members and policy holders. No dividends or profits are paid to idle office holders. The business of the Association is conducted as economically as is consistent with good management and the earnings are divided among the policy holders.

This is an age of mutual insurance and the strongest and best companies are composed of and managed by the policy holders, as has been demonstrated in the East. Look over the list of claims paid. Write some of the parties and also write direct to the company, 610 First National Bank Building, Oakland California, for specimen policies, information and cost of insurance. Mr. M. L. Wright, the president, will cheerfully furnish full details and application blanks.

## AMES PUMPS.

The finer illustrations from Catalogue No. 24 issued by the Ames Manufacturing Company of Niles, have been taken and made into a wonderfully attractive pamphlet. They show the Ames Pumps at work and the various parts of the pump head which has practically revolutionized the system of deep well irrigation. The Ames Company was formerly located at Galt between Stockton and Sacramento, but is now at Niles with a magnificent new plant which is capable of putting out a greater number of pumps and of better quality than ever. We doubt not that Mr. Ames is still making the leather packing supplies for which he is justly noted.

Farm of J. R. Milne, Grower & Shipper of Fruit, Forbes, Holt Co., May 19th, 1909.

Fort Dodge Chemical Co., Fort Dodge, Iowa:

Enclosed find P. O. Order for $1.50 to pay for one package of Gopher Death and one of Raticide Tablets. I have been fighting gophers for 28 years, have tried about everything and find your Gopher Death is ahead of all else for ease of application and certainty of execution.

Yours truly,
J. R. MILNE.

**What is the Market Price of Your Produce Today?**

Mr. Farmer, the *"Daily Market Reporter"* is the only paper that can give you this information absolutely correct. Do not depend on the newspapers. Read the official paper of the Produce Exchange of Los Angeles for market information. Published "daily" immediately after the call on the Exchange.

*SUBSCRIPTION RATES: Payable in Advance, per Month, 50c; per Year, $5.00*

**Office: Room 203, 335 Central Avenue Los Angeles, California**

60 H. P. Western Pumping Plant

# A Frequent Mistake

made by engine buyers is to suppose that one engine is as good as another, the only difference being in the price. Certainly, many engines can be bought for less money than the WESTERN and this fact sometimes leads the prospective purchaser to the conclusion that to buy a low-priced engine will be an economy. This is not so. The one essential of an economical engine is that it shall give the maximum service for the minimum expenditure. If it is cheapened to a point where it fails to do this, **any** money put into it is an extravagance.

In the WESTERN every detail of design and construction has been to reduce the fuel and maintenance cost to the lowest possible figure. That we have succeeded is being constantly proven where our engines are installed alongside other makes, doing the same work, under the same conditions, developing **more** power, with **less** fuel.

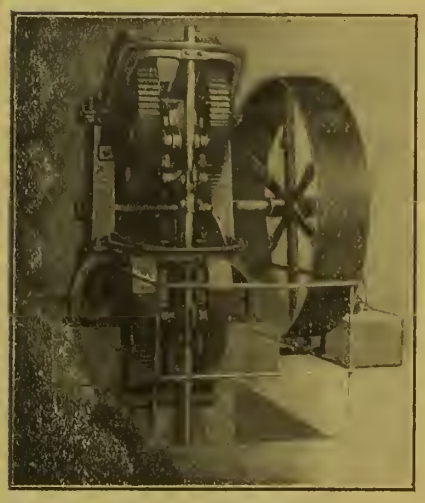
Write for Catalogue.

Have you heard of the Nix-Frost Crude Oil Gas Producer? It's "The Cheapest Power on Earth."

**Western Gas Engine Company**

*Northern Branch: San Francisco, Cal.* *Los Angeles, Cal.*

# The Smooth Running, Noiseless Pomona Deep Well Pump



It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.

**POMONA MANUFACTURING CO.**
**POMONA, CALIFORNIA**

THE
# Latest Deep Well Turbine Pump

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

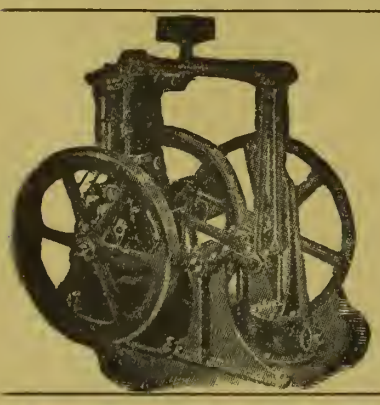
**Byron Jackson Iron Works**

A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam. Deep well Plunger and Propeller Pumps.

**Main Office and Works:**
**Carlton Station**
**West Berkeley, Cal.**



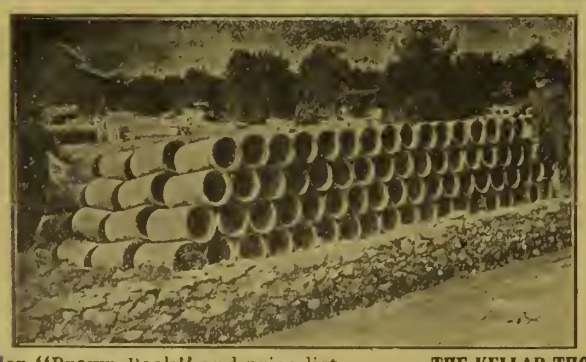
## A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

## The Little Wonder

Write or call on

**Wm. Gregory**
602 No. Main St. Los Angeles, Cal.



From photograph showing amount of

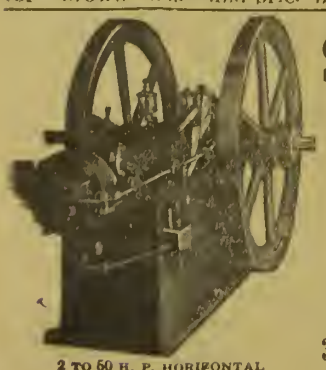
**Ten-Inch Pipe**

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

**"K T" Moulds**

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list

**THE KELLAR-THOMASON MFG. CO., Covina, Cal**

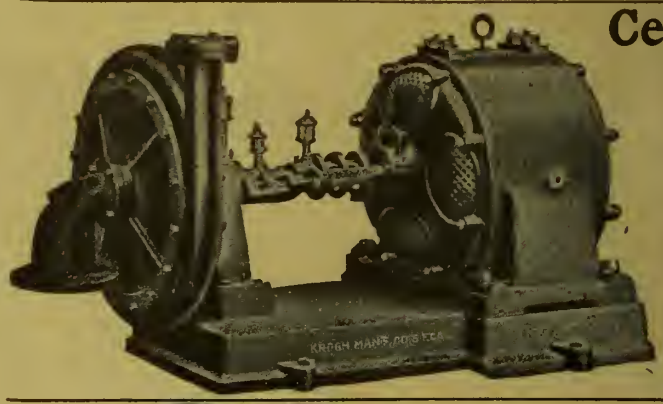


2 TO 50 H. P. HORIZONTAL

# STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

**LIVINGSTON & LEE**
**352 So. Los Angeles St., Los Angeles, Cal.**



# Centrifugal Pumps

For high or low heads

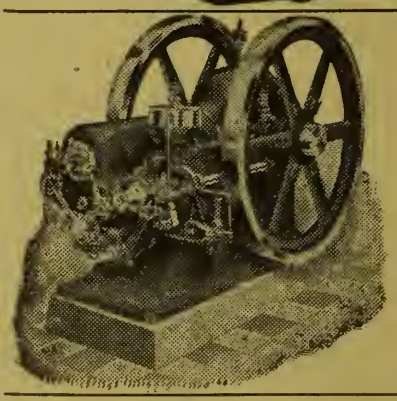
*Direct Connected or Belt Driven*

Highest obtainable efficiency

**Krogh Man'f'g. Co.**

127 to 133 Beal Street
SAN FRANCISCO, CAL.

*Send for New Catalogue No. 50 just issued.*



# Another New Gas Engine

Is amongst us and if you are in need of power you should investigate this one. You will find that it possesses the most desirable features of all the old timers and the price is right. Plenty of catalogues for distribution.

***Henshaw-Bulkley & Co.***
**262-264 So. Los Angeles St., Los Angeles**

# Tanks Tanks

**WINDELER'S PLANING MILL AND COOPERAGE**

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

**Geo. Windeler**

*Wine Tank* 144-154 Berry St. San Francisco, Cal. *Water Tank*

# Second Hand Irrigating Plants

Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

**Western Machinery Company**
**230 Main Street, San Francisco, Cal.**

When writing advertisers, mention Cultivator.

California Cultivator

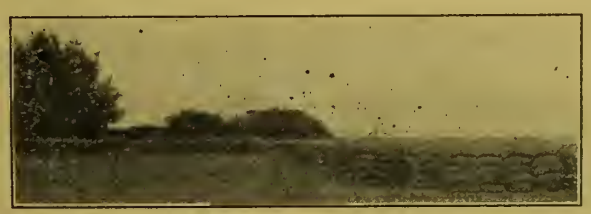
Published Weekly — One Dollar a Year

Los Angeles — July 29, 1909 — San Francisco

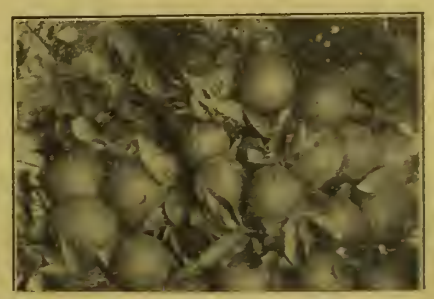
# Market Value of an Ideal Climate

San Joaquin County Has Claimed for Itself That it is the Gateway for Much of the Commerce of the Great Valley, and Indeed Its Capital, Stockton, is a Great Commercial Center. The Photos Below Show That This County Has Also a Typical California Climate Where the Orange, Olive and All Other Fruits Grow and the Residents are Happy

Picking Olives in November.



Stacks of Grain. The Azure Roof of This Storehouse Never Leaks in Harvest Time.



Orange Cluster in January.

Silver Prunes in September.

Apricots in May.

Tokay Grapes. Fifteen Hundred Carloads Shipped Annually

Midwinter Table Decorations From Stockton Orange Trees.

San Joaquin Lemons in December.

# Pioneer ROOFING

We tell you to put on a "Pioneer Roof," and forget it. Needs no paint or repairs. Sun proof and rain proof. Not affected by extremes of heat or cold. Suitable for all kinds of buildings—pitched or flat roofs. Comes in handy rolls. Easy to lay—anybody can do it—no special tools needed.

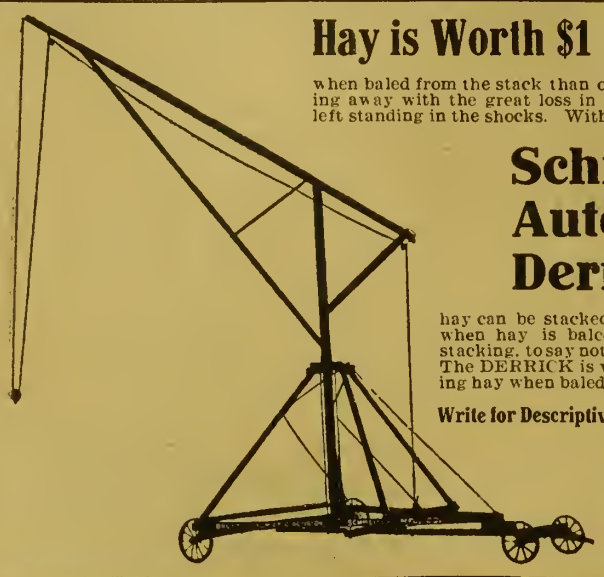
**Now then—Let us send you samples, a copy of our 32-page Roofing Booklet and name of our nearest agent.**

PIONEER ROLL PAPER COMPANY

DEPARTMENT 11-F LOS ANGELES, CALIFORNIA

## Hay is Worth $1 per Ton More

when baled from the stack than out of the shock, besides doing away with the great loss in weight which results when left standing in the shocks. With the



## Schmeiser Automatic Derrick

hay can be stacked for 15c per ton, therefore when hay is baled 85c per ton is gained by stacking, to say nothing of the saving in weight. The DERRICK is worth its cost alone for loading hay when baled.

**Write for Descriptive Circular and Prices Today**

**Schmeiser Mfg. Co.**

**Davis, California**

## Vacation in the Mountains

**GO TO**

# Lake Tahoe

**High Up in the Sierra Nevadas**

Where you may fish, hunt, ride, drive, sail and enjoy all the pleasures that abound at this famous resort.

## $23 Round Trip

**From Los Angeles, Saturdays, July 31**

Limit for return, 21 days—with stopover privilage at San Francisco on return trip. Also at Merced, in order to visit Yosemite Valley.

Proportionate rates from Santa Barbara, Ventura, Oxnard, Long Beach, San Pedro, Santa Ana, Pasadena, Pomona, San Bernardino, Riverside and Redlands.

Ask for literature and details.

**600 So. Spring Street, Cor. Sixth**

**Arcade Sta., 5th St. and Central Ave.**

# Southern Pacific

When writing advertisers, mention Cultivator.

# Westcott

***WE HAVE THE WINNER. IT'S A BEAUTY!***

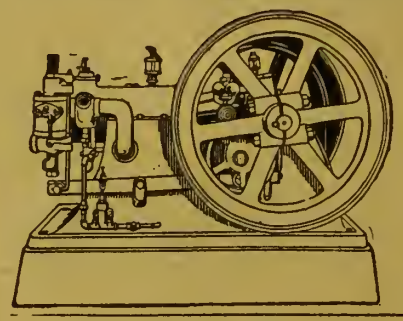
What everybody wants is a practical machine—economical to use, easy to handle and durable. This car is built for service and economy, easy riding and no tire troubles. You have use for it.

Single or double rear seat as desired.

Address Automobile Department,

**Newell Mathews Co.** 200-202 No. Los Angeles St. Los Angeles, California

## Alamo and Union Distillate Engines



**New Stock Just Received**

**Strong in Power**
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# California Cultivator

Vol. XXXIII—No. 5 Los Angeles, California, Thursday, July 29, 1909 Subscription $1 a Year

# Character and Control of Hardpan

## A Paper Prepared by Charles Fuller of Redlands in Competition for a Prize at Pomona College

THE subject of hardpan has been greatly neglected by agricultural students and writers. Whether because it has never been fully understood or whether it has been deemed of too slight importance, it has not received the attention which it merits. As a matter of fact the study of hardpan is of the greatest importance to the owner and tiller of land in California for the phenomenon is encountered in almost every district and presents problems which demand satisfactory solution. What is the constitution of this hardpan? What is the reason for its periodical appearance and disappearance? What is the means of preventing its formation? These are the practical questions which at once confront the inquirer.

The constitution of hardpan depends primarily upon the nature of the soil. Those soils which are largely porous—such as found in sandy deposits—are rarely given over to hardpan formations. On the other hand those compact soils containing a high percentage of the cohesive elements are often seriously affected. Between these two extremes of soil composition the hardpan is formed also in varying degrees.

It is interesting to note, in taking up the study of the hard formation in the ground, that hardpan is not found in the winter months, but it seems to appear just after the dry season or summer has commenced. Since this is true, the problem of properly tilling the ground takes on a serious aspect. In winter the trees can easily push their roots out in all directions, but in summer if the hardpan is present, not only will the trees have difficulty in pushing their roots through the ground to obtain proper nourishment, but the amount of moisture retained by the ground will not be sufficient for the trees to draw upon for any length of time. It is because the hardpan forms below the point of cultivation and extends to the depth of twelve inches and is practically impervious to water that the trees will have only a limited supply of moisture to draw upon. The roots which are in and below this hardpan will draw no moisture, for water will not percolate through the hardpan. It is literally true that one may irrigate to his heart's content in some places yet only a certain amount of moisture will be retained by the ground. Thus the reason that trees wilt soon after a good irrigation is because there is hardpan present.

Many observations have been made upon the subject of hardpan which will bear repeating here. The fact that hardpan is not found in winter or during our wet season, the fact that it is present in summer time and below the point of cultivation can be explained by a chemical reaction which takes place between a common constitutent of the atmosphere and the common cementing material or lime which is found in the soil. Why is it that in winter even our storm water ditches do not become hardened, yet in summer they seem to have a cement bottom as though man had actually placed cement in them?

As has been said already, the soil is made up of the same constitutents as the rocks. Thus there is a great amount of the common cementing material or ordinary limestone in the soil. Now if the carbonic acid will dissolve this cementing material out of the rocks, it will also break up the hardpan in the soil. The very fact that hardpan is not found in the winter time is easily explained by the fact that during the wet season the rain water being heavily charged with carbonic acid softens the hardpan by changing the cementing material over to the soluble bicarbonate of lime. But when the insoluble limestone is in the ground to as high a degree as three per cent of the soluble material, this amount is sufficient to form a substance which will hold the particles of soil together and render the ground almost impervious to moisture.

Possibly an objection might be raised at this point. Why, it may be asked, does the hardpan form at a point below the ground worked by a cultivator? Why does not the hardpan form on the surface as well? Some experiments were carried on in the laboratory to throw some light upon these questions. It was thought that if the above theory of hardpan were correct, the soil found in the hardpan would naturally contain a higher percentage of cementing material. If such were the case then it would be conclusive proof that hardpan is due to this higher percentage. After numerous experiments upon the surface and hardpan soils of Claremont, it was found that both soils contained exactly the same amount of lime. Other factors, therefore, must account for the formation of hardpan below the point of cultivation. In summer when the hardpan is present, the surface soil is frequently disturbed and cultivated, thus breaking up the cementing material on the surface so that no hardpan is formed there. It is true that if any ground is allowed to stand any length of time the hardpan will be found on the surface as well as beneath. Therefore, surface cultivation prevents the hardpan from forming above the point of disturbance.

But what is the reason hardpan reappears after it has once been dissolved? It is a well known fact, that the soluble bicarbonate of calcium will change back to the insoluble carbonate if ordinary evaporation takes place. It is well known, too, that especially in this section of the state, the loss of moisture by evaporation is enormous in the summer time. Heat is also a great factor in changing the soluble substance back to the insoluble or the cementing substance. In fact, less than one hundred degrees temperature is sufficient to do this. - - - - - - - - -

Some observation has been made which will go far to substantiate the theory of lime formation of hardpan. It has been noticed by many that the hardpan seems to predominate in summer time nearest the irrigation furrow. To explain this the irrigating water used must be considered. The fact is that the same substances of which the rocks and soil are composed, are found in small quantities, comparatively speaking, in the irrigating waters. For instance as compared with the other normal waters the irrigating water used in Claremont is highly impregnated with lime, about one hundred and forty-five parts per million being a conservative estimate. This would naturally be expected to follow, since as has already been mentioned, this water runs directly over rocks abounding in lime which form the beds of San Antonio and Ice House Canyons. Now, the lime is in the water as the bicarbonate, but when irrigation is going on, this highly impregnated water deposits the lime through evaporation and other chemical changes, (as the insoluble compound). Thus, the reason why the hardpan predominates near the furrows, is, that there is more lime near these places.

Now, having examined the constitution and phenomena of hardpan we may consider means for its prevention. Subsoiling is advocated by some. That is, to literally rip up the hardpan with a sharp instrument known as the subsoiler, is thought the best means of preventing and removing the hardpan. However effective this method may be, it is too expensive and too laborious. After the hardpan is torn up, the large chunks of dirt must be pulverized by some means before the soil can be worked. Some have even advocated the method of ridding an orchard from hardpan by the use of dynamite caps. A moment's thought, however, upon this method will convince one that it is not practicable. Not only is this method expensive and laborious but results in the tearing of great holes in the ground, which, especially in an orange orchard, is not to be considered. It has been shown in the discussion above that evaporation is one of the indispensable factors in changing the lime from the soluble to the insoluble form. Now then, if this element, evaporation, can be removed, the formation of the insoluble cement will be prevented—that is to say the hardpan will not form in the soil. Of course it is a factor which cannot be absolutely removed, but there are methods by which it may be greatly retarded. It has been noticed that it is almost a custom among the growers here to do their plowing in mid-winter. Now if the plowing is done late in the spring after the rainy season and before the hardpan begins, it will stir up the soil to a greater depth than cultivation would accomplish, thus causing the moisture to escape from the undisturbed ground less rapidly, and hence retarding the formation of the hardpan. This is one method. Another method which is not very expensive and which prevents evaporation to a great degree is to cover the ground with barn yard manure or even loose straw. If this is done in the late spring or early summer and plowed under, the ground becomes very mellow and evaporation is prevented in a very marked degree. One orchardist near Claremont follows this method and since it has been tried the orchard is almost free from any form of hardpan. Thus if these methods which are not radical in their nature, are only carried out, the presence of hardpan will be done way with to a great degree.

---

Those who have seen the beauty of the Salton Sea which has been made by the overflow of the Colorado River into the Salton Basin, were concerned to see a few days ago a statement that the Salton Sea will soon be no more. This was qualified in the same article though by saying that it will probably not disappear prior to 1925. If this is true we will be able yet to catch many fish from its waters before they entirely dry away. We believe it was the editor of the Imperial Standard who said that it was impossible to dip into the waters of the Salton Sea with a cup to secure a drink without first driving away the fish with a club so as to secure an opening.

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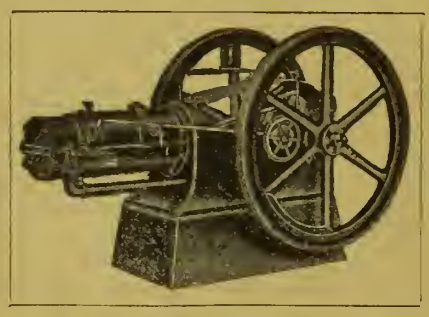

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# With the Citrus Growers

## DEEP CULTIVATION.

As the attention which has been given to the matter of better physicial condition of the soil is creating particular interest in that line of work, it may be timely to refer to the latest invention of soil working tools which enables the deepest cultivation with the least draft of any implements we have seen. In the first page article in the issue of July 15th on "The Handling of Intractable Soils" in the form of a symposium, written by Prof. Wickson, Dr. Loughridge, Mrs. Sherman, Mr. Collins, Mr. Neff and Mr. Jones, some particular attention was given to the effect of lime and gypsum and the addition of humus. It will also be recalled that the advantage of thorough and deep cultivation was spoken of. About the time that article appeared, a telephone message from Lordsburg informed us of the try out of a new implement which was claimed to go into the soil and give it such a stirring as no other implement besides the plow could give to any soil. The telephone message sounded interesting and a Cultivator representative was present at the try out on the ranch of Valentine Peyton at Lordsburg last Thursday.

We say the "try out" although it has been used on this ranch for several months and on two or three adjoining ranches, but this was the first public demonstration, and fruit growers from various parts of California were present and criticised and commended the new implement.

The new cultivator is to be called the La Verne Rotary Cultivator, and is the invention of a blacksmith-farmer. That is, Mr. O. S. Jewett, a practical mechanic, coming to California and taking up the culture of oranges and lemons and finding himself confronted with a rather compact soil, soon saw that he would be unable to give the ordinary summer cultivation without the formation of the "plow sole" or hardpan which often occurs in such soil in a dry season. Mr. Jewett determined to use his knowledge of mechanics to construct an implement that would prevent that formation. He reasoned that if the soil mulch could be made so deep that moisture would ever be present in all the section below where the teeth of the working tool reached, there would never be any hardpan. He also found from experience that the ordinary cultivation would not give that depth. Plowing was, of course, out of the question during the summer months, as it would turn up the moister lower soil and turn under the dry mulch which should be kept on top. The disk came the nearest to filling Mr. Jewett's requirements, but it left the soil very uneven and turned it over more than he thought was wise. His observations and experiments finally resulted in the construction of a disk tool which is not a disk, that is, it has the rotary motion of the disk, but teeth of spring steel which, as The wheel is made up of six points or action down into even hard soil. The wheel is made up of six points or one-fourth or three-eighths inch by two and one-half inch steel sharpened at the ends so as to make good cutters. From center of wheel to point of teeth is eight or nine inches, and when the weight of the rider is added to that of the tool, these teeth are buried in the ground so that the dry dirt passes over the shaft on which the teeth revolve. This will make a cut of fully eight inches into a very firm and compact soil.

The cultivator intended for two horses has eight disks set at the outer ends of the implement, leaving a space in the center equal to one of the sets of four. In cultivating, the set at the right passes near and even under the branches of orange trees without injuring either branch or fruit, while the left end or outer side takes the center of the space. On the return trip the right side works against the opposite row of trees while the left set cultivates the space remaining from the first trip. The depth to which the teeth enter the ground is regulated by a lever which controls the angle of cutting. If set nearly straight the machine runs shallow and does not stir the soil as it would if set at a slight angle.

The horses handling the tool on the try out, though a good draft team, plainly showed that it was easily handled. Of course it goes without saying that very thorough and deep cultivation can not be given by a light road team, but we do not believe that any such depth of cultivation can be given with such light draft as this.

This cultivator has been used on Mr. Peyton's ranch for several months, also by Mr. L. C. Meredith, one of the pioneer ranchers of the section, who said that he had never found anything that worked his soil so satisfactorily as did this implement in the two weeks' test which he had given it. He is now anxious to have one as soon as possible, as were also others who were inspecting it on this first exhibition day. Unfortunately none of them are as yet manufactured. Mr. Jewett and Mr. Peyton hope to have in the near future a factory for turning out these cultivators, when they will be put upon the market.

A Hawaiian Pineapple Field.

Valencias are yet commanding fair returns, but all other oranges are barely securing freight and charges.

## THE AIR IN THE SOIL.

### Air For The Roots.

We may forget that roots breathe the same as do other parts of the plant. They obtain oxygen from the air and throw off carbon dioxide gas. The amount of air that is available for the use of the roots depends principally upon the condition of the soil. The spaces that occur between the soil particles are filled with air from which the roots obtain their oxygen. These spaces vary with the kind of soil and the treatment it has received. In clay soils these spaces are very small; hence, under equal conditions the roots in clay soils are not likely to be as well supplied with air as are those in sandy soils, where the spaces are much larger.

### Aeration by Plowing or Draining.

A most important result obtained from plowing or draining is the admission of air into the soil. Soil that is water-logged has its air spaces filled with water. Nearly all of our farm crops, excepting rice, would die in such a soil for lack of oxygen for the roots. As the water is removed by drainage, air comes in to occupy the spaces that were filled with water, and the soil is improved. Water, passing through the soil after a rain or after irrigation tends to ventilate the soil by putting the air in motion. This accounts for some of the advantages obtained from rain and irrigation.

Clay soils should not be plowed while wet, as this presses out the air and leaves the soil in a poorly aerated condition. Cultivation when the soil is in the right condition breaks the cakes or clods and allows the air to enter freely. Plowing at the same depth year after year produces a hard pan known as a plowsole. This interferes with the free passage of roots, moisture and air to the subsoil. Varying the plowing depth each year will prevent this condition.

After rains or irrigation, soils are apt to have a crust formed. This prevents the free passage of air into the soil. We should, therefore, use a cultivator to break this crust.

### Excessive Aeration.

In sandy soils, the spaces between the soil particles being large, air enters freely under ordinary conditions and constant stirring of the soil may allow an excessive amount of air to pass in.

The soil is inhabited by micro-organisms whose work is to break down humus and other organic compounds. The nitrogen of these substances is finally changed into a nitrate, in which form it is available for the use of the plant. If there is a lack of aeration these organisms cannot do their work. Other organisms that grow only in an atmosphere lacking in oxygen, develop, causing harmful effects. But in the presence of an excess of air and plenty of moisture the former organisms may multiply and act so rapidly that large quantities of humus may be transformed into soluble forms which may be washed away. This rapid transformation of humus is known as "burning out" of the soil. Since these soluble forms of nitrogen are likely to be leached from the soil, it is better that they should become available slowly. A rapid transformation of the humus is undesirable from another standpoint. In addition to its importance as a chemical or food constituent, humus is very necessary to the best physical condition of the soil. It not only enables the soil to hold moisture, but it also acts as an absorbent for certain fertilizing elements, thus keeping them from leaching away.

In order to conserve the humus in soils that are being "burned out," the soil must be treated so as to reduce the amount of air which enters. If this is due to constant cultivation, such as is sometimes practiced in orange groves, the practice must be changed, or humus should be supplied to the soil to make up the deficit.—Florida Ag. Exp. Sta. Bulletin.

## GATHERING THE OLIVE.

Whether olives are to be used for pickling or oil-making, it is very important that they should be picked carefully and at the right time. For green pickles they should be picked very soon after they attain full size, and before they have begun to color or soften.

For ripe pickles they should be gathered at the same stage of ripeness as for oil-making; that is, when they contain the maximum amount of oil. This will be shortly after they are become well colored, and before they have attained the deep black which signifies over-ripeness. If the olives are gathered before the proper degree of ripeness is attained, the oil will be bitter; if they are too ripe, it will be rancid. On account of the varying coloration in different varieties of olives, it is somewhat difficult to tell from their appearance when they should be gathered. When they can be easily shaken from the tree they are sufficiently ripe. If they commence to fall without vigorous shaking they are over-ripe.

For whatever purpose the olives are to be used they should be carefully gathered by hand. Rakes or sticks should never be used, as they bruise the fruit and break off numerous fruit-shoots needed for bearing in the following year. It is well to sort the olives as they are being picked, and to set aside bruised, diseased, or under-ripe fruit.—Joseph Hillman.

## JAPANESE PERSIMMONS.

Since its introduction into this country a little more than a quarter of a century ago, the Japanese persimmon or Kaki, has been slowly but steadily growing in favor. Where it can be placed on the market when nearly ripe, there has been and is always a good demand for the fruit, sufficient to make it profitable to cultivate it in a limited way. In the northern markets, however, it has not met with the favor that it was expected to receive. The reason for this, perhaps, lies in the fact that it comes into the markets with apples, pears and late peaches. Besides this, it must be shipped before fully matured, and being placed on the fruit stands while still unripe, the purchaser's first impression of it has too frequently been everything but favorable. Delicious though the fruit is when fully matured, there is nothing more repellent than a green, or half ripe, light-fleshed Kaki.

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---

A common mistake is to apply a remedy for insect pests that is intended for plant diseases and vice versa. Know what you are doing and go ahead. Remember that the fungicide is a substance used in destroying fungi or plant diseases, and insecticides are substances that are used in destroying insects.

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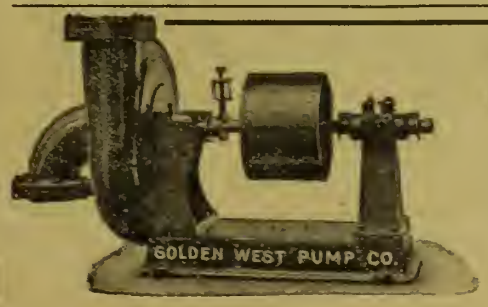


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# Deciduous Fruit Culture

By J. W. Mills

## HORNETS AND YELLOW JACKETS AGAIN.

IN a recent issue is a question from J. S. of Morgan Hill complaining of the depredations of yellow jackets, which is answered by Mrs. M. E. Sherman. According to my knowledge of the "bugs" she does not seem to know the difference between a hornet and a yellow jacket. To prove that they are very different from each other I will describe their nests. The hornet, to which I suppose she refers when she speaks of farmers offering money to the boys to destroy the nests, is the original paper maker of the world. It makes a big nest, sometimes as large as a peck measure in a tree or bush, and here I will say that I never knew them to touch or destroy any fruit, but so far as I can learn they destroy many other insects. On the other hand the yellow jacket is a great destroyer of fruit, especially the grape. I think if Mrs. M. E. S. were to undertake to destroy their nests she would have a tedious job, for the yellow jacket builds no large nest like the hornet, but is a mud-dauber and just makes a little ball of mud about the size of a pea and deposits an egg in each one and sticks the pellets a few here and a few there where they will be safe under the edge of a board and in dark corners. These hatch every few days during the summer.

The remedy I here describe I have tested in California. Eight years ago I lived up in the mountains near Santa Barbara where there were thousands of acres of wild land all about me. I had lots of grapes and the rocks were full of wild bees. The yellow jackets spoiled my grapes so that I had not many left, but I kept up with them. I picked up a half dozen old cans, cut the side out of each so that I had a flat pan. In town I had found some snow apples that had begun to rot. I knew that they would make good bait.

I put the teakettle and as many other vessels as I could get on the stove. Then I took an old sack and cut into about four pieces, put the cans over the place eight or ten rods apart, and put a piece of sack near each one so I could get hold of it quickly, also a piece of twine. In each pan I placed a few pieces of the rotten apples, then went to the house and got my teakettle of boiling water. By the time I got to the first pan there were fifty or sixty yellow jackets eating the apple. I very quietly laid the cloth on the pan, looped the string around it and poured on the cloth about a pint of the boiling water. Then I went on to the next pan until I made the rounds. Then I took off the cloths and found every jacket dead. The next day there were but few to be seen, but in a few days I repeated the performance. Although there were such swarms of them, I killed them off so clean that when next spring opened up there were but five or six to be seen. I then put out a pan with a piece of nice fresh lean mutton. Their sense of smell seems to be very acute. In this way I caught about twelve jackets and that was the last of them while I lived there.—C. F. Bockenoogen, Santa Barbara.

We trust Mr. Bockenoogen's hint may be of value. But as to his criticism of Mrs. Sherman's statement, we referred the matter to S. A. Pease of the Horticultural Commission of San Bernardino county, and he writes:

Your correspondent from Santa Barbara in taking issue with Mrs. Sherman has evidently confused insects from two different families of the family Vespina, the true wasps. The hornets and yellow jackets belong to the family Vespidae, the social wasps, and they always build their nests of paper. The insect he describes is probably one of the solitary wasps, family Eumenidae. These are often called mason wasps or mud-daubers. They closely resemble the yellow jackets in shape and color, but are comparatively harmless to man. John B. Smith goes so far as to say that they are beneficial and should be encouraged by the farmer. The hornets and yellow jackets on the other hand, besides the injury that they inflict with their sting, frequently attack fruit that shows the slightest sign of decay.

The yellow jackets as well as the hornets are dormant through the winter but the solitary wasp is putting her eggs safely away in mud balls.

I append a few quotations from the best authorities on insects.

Comstock says, speaking of hornets and yellow jackets: "The species of this genus enclose the combs of their nests with a spherical paper envelope. Any person who has no respect for the rights of yellow jackets has before him a lesson if he takes pains to disturb one of the oval gray paper nests."

Under genus Vespa, Prof. J. B. Smith says, "These are the hornets and yellow jackets. They are a nuisance sometimes in the orchard where they are apt to attack all fruits that show the least injury or decay, and they have been accused of puncturing juicy specimens, etc."

Prof. Kellogg says, "Yellow jackets and hornets are the ones which build the large subspherical nests familiar to all outdoor observers and related to much boyish adventure."

Folsom gives the same description of their nests and says, "The larvae are fed at first by regurgitation, upon the sugary nectar of flowers and the juices of fruits."

As to remedies I have had no experience but Mrs. Sherman's remedy is probably as good as could be suggested.—S. A. Pease, San Bernardino.

## GETTING A LIVING PRICE FOR FRUIT.

A subscriber living in Barstow, but having interests in the San Joaquin Valley writes to Mrs. Sherman telling of the difficulty he faces in the matter of securing returns for produce. We give the letter almost in full, with Mrs. Sherman's reply, hoping both will prove of value to others.

I would like to ask a few questions. I am, at present, employed as a conductor on the Santa Fe, between Barstow and Needles, the worst part of the California Desert, I own a little land at Ceres, Stanislaus County, in the Turlock Irrigation district. My father and a younger brother own 50 acres at the same place. The ranch has some alfalfa, but mostly peaches, and Thompson Seedless grapes on it. They are rather discouraged with the net results of both peaches and grapes. Prices for the dried fruit have been so low, although the trees and vines have borne well. It is about the shipping and packing of the grapes I wanted to ask you.

Father shipped a considerable quantity of the Thompson Seedless grapes to the San Francisco market last year green, and said there was more money in them that way. But the commission men complained of the condition in which they reached the market, and the returns made were not what he thought they ought to be. I am going to try and get off and go to Ceres next month, and to San Francisco, and help to see that the fruit is packed right, and see in what condition it reaches the market and see if the commission men are making just returns.

From your paper I take it your grapes are largely the Emperor, and your market, New York and the East. Have you packed and shipped much of the Thompson Seedless for the San Francisco market? What is the best way to pack and ship, boxes or baskets, and what size? Can you tell me in a few words the best method of handling and packing them? Should our grapes stand over any time between picking and packing. You spoke of stacking your sweat boxes, and "after 24 hours the stems are limber enough to pack." When does your picking and packing begin?—R. T., Barstow.

Prices have been low on dried fruit, yet I have faith, and on that am about to cut peaches for drying. We have been packing all week for the Eastern market. The almost impossibility of having the peaches handled as they should be for shipping has grown discouraging, and today I am keeping out of the packing house. I can control the pickers and hauling but am greatly tried over the way the fruit is put through the packing house. The women and girls if left to do their way handle the fruit gently, but the men are terrors. They slam the crates around as though they were filled with cobbles stones.

We never ship to the San Francisco market on consignments. That with us is an f. o. b. market here at Fresno. The San Franciso markets

(Continued from Page 119.)

POTASH

You can no more get wheat without straw than you can get cream without milk. If you get too much milk for too little cream, don't starve the cow to reduce the milk, but feed her for *richer* milk. If your wheat this year shows too much straw and not enough grain, feed your soil this Fall for wheat that will grow *more* grain next year.

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# Live Stock and Dairy

By Mrs. Minna E. Sherman

**Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.**

### VALUES

GOOD horses in the barn that will sell for profit, good pigs in the pens that are growing hourly into hogs, good cows in the milking string that are making good returns every month from the creamery,—these are the strings that a farmer may use as side issues, while the peaches turn red and the grapes grow sweet and the orange trees tail not to blossom and set their golden apples. These crops of animals are not suddenly cut off by frost nor are they liable to sunburn. The stock crop is reasonably sure but it must be handled the same as any other crop and turned off when ready for the market. The horses and cows must be sold when at their best and young stock coming on fill their places. The stock farmer is the source of supply for the orchardist that depends on buying his animals. Now with this stock industry the main dependence, the orchard and vineyard become profitable from the case where the milk was rich, the per cent of fat has to be too high; while in the last the amount of milk is too great. The cows lack balance and are more easily thown off their feed than the herd that is nearer to the natural amount of fat or milk flow. A litle cold or a little irregularity in the feed and the poorly balanced animals are made ill.

#### Balanced Cows.

The balanced cow, fed on the balanced ration, and milked regularly by a well balanced milker, may be counted to keep the balance on the right side of the ledger. The common cow pays well after she is culled out from the lazy members of the herd. I often wonder if the losses of starting and culling out a herd would not be as much as the cost of buying a few aged cows of established test and from these pure bred ones raising a herd? If I intended to build a herd I should not buy heifers of common stock but older cows that had been left from year to year by the dairyman as profitable in his herd. The breeding of these cows to a pure bred sire will give quicker results than the use of any kind of heifers to start a herd with. The misfits have been culled out from the older cows in a measure. Even in the first generation of cows raised from these older cows there will be enough that have to go to the butcher.

An Imperial Dairy.

heavy fertilizing they receive and the returns may be considered as profit of the dairy and stable, or the other point of view may be taken and the vineyard and orchard considered the main source of profit and the live stock industry as the side issue.

#### Paying

Good cows in the milking string, if the milk is not weighed once a month for three days and tested, will often not receive all the food they are capable of using. Sell the cows their food and care, the same as the vineyard is sold its labor and fertilizer, and if it does not balance up at the end of the year it is counted out as a source of profit. The cow that does not pay well is much easier disposed of than the vineyard or orchard, as the butcher will take her and convert her into beef at once. Cows averaging 300 pounds of butter will give from 5000 to 6000 pounds of milk yearly according to their breed. Now I would not care to have a herd of cows making 300 pounds of butter from less than 5000 of milk for the reason that the milk left after the fat is removed is too valuable on the ranch for feeding. Again, I would not care to have a herd on the other extreme of producing at the rate of 10,000 pounds of milk to make the 300 pounds of butter. In the first

#### Good Cows.

There are good cows to be found in the herds that the dairymen sell off. There is now in the dairy papers the record of a cow picked up in a common bunch that makes 600 pounds of butter. While this is a lucky strike, I often think that if these cows that do so well have their pedigrees traced they might prove to be full bloods after all. I have thrown out full bloods from the herd that had poor conformation and that lacked vigor and sold them with grade cattle from time to time. Now these cows were culls, not from a milk or butter standpoint, but from the breeder's standpoint. These cows might fall into the hands of a man using a sire of pure blood of the same breed and the value would be in the offspring. I do not think for an instant that I am the only breeder of registered stock that throws out a heifer every now and then. So these cows making record of 600 pounds a year are probably the descendants of this class of stock. Now a certain cow won the first prize at

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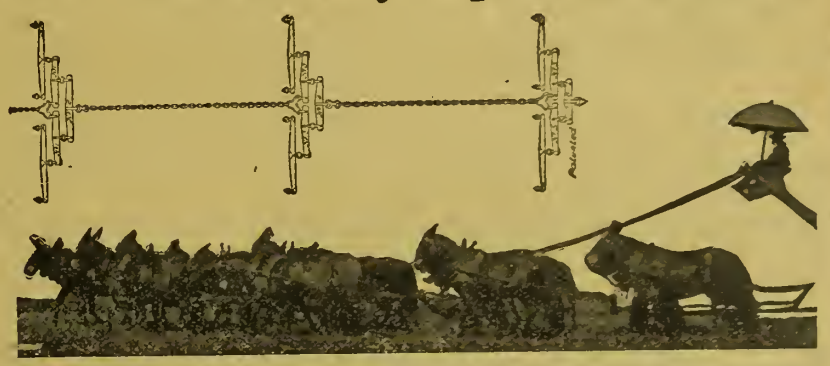

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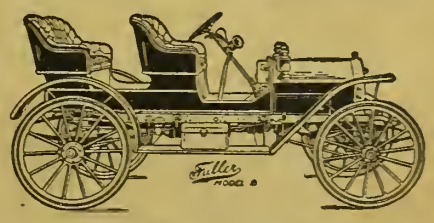

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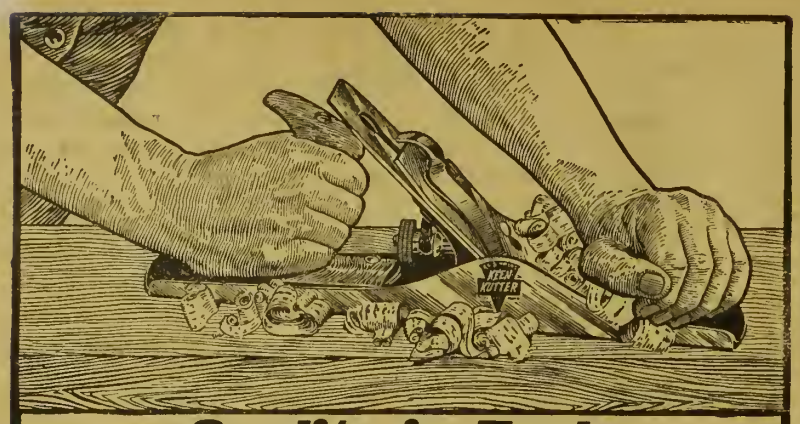

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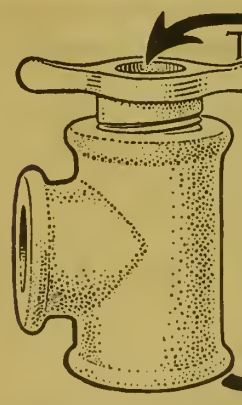

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Sacramento as a dairy cow for several years. The type in her had been bred too fine and while her daughters would be right to breed from, if their sire was a vigorous animal, her sons would not be fit to head a herd as they would lack stamina. The transmission through the male of the character of his dam is very strong and the head of the herd should have a dam that is as nearly perfect in vigor and as purely feminine as possible. Then if the boy looks like his mother and has the twinkle in his eye of mischief, and a touch of bad temper, he is apt to be desirable.

**Six Hundred Pounds.**

Now, if this cow making six hundred pounds is really a grade cow, the temptation to use her sons will be great, but it should be resisted, for while that was the the way the first butter herds were bred up, still it is a slow way when there are pure bred animals to be purchased cheaply. In California the chances are always of grade stock running to beef, because the early breeders were beef men and understood their business. The importation of dairy sires has only been a matter of business for ten or twelve years while the beef breeders have been bringing in their sires by the carloads ever since the railroads were built.

Not one or two, but a hundred at a time of these Shorthorn and Hereford sires have gone on the large ranches around the Great Valley. Now, if a grade sire is used the chances are that the cold beef blood, will come out in a large number of his calves. We have milking shorthorn strain that are good and anyone that walks around Berkeley quickly thinks that the private family cows are all red shorthorns, so many are seen tethered out.—M. E. Sherman.

## HOW TO MAKE SCHMIERKASE.

Cottage cheese, sometimes called Dutch cheese or schmierkase, is made from skimmilk, writes K. A. Ulmann of the Nebraska station. A small amount of buttermilk may be added. To make cheese, allow the skimmilk to become sour and curdled. Heat it then to from 90 to 100 degrees F. in about thirty minutes. After reaching the desired temperature remove the vessel from the source of heat and leave the curd in the hot whey for about fifteen minutes. Remove then the whey by pouring the heated clabber into a cheesecloth bag or on a draining rack (made out of wire screen with cheesecloth spread over it) and allow to drain until no more whey appears. The higher the temperature to which the clabber is heated, or at a like temperature, the longer the time of heating and the longer the curd remains in the hot whey, the harder and dryer the cheese will be. By regulating the time and temperature we can always produce cheese of the desired consistency.

The yield is about fifteen to twenty pounds from 100 pounds of skimmilk, and the price is about ten cents per pound. Before using or selling, the curd must be worked thoroughly and some salt and cream added. The amount of salt added depends upon the taste of the consumers, two ounces to each ten pounds of cheese is a medium amount. Adding cream greatly improves the flavor of cottage cheese, and since under ordinary conditions a pound of medium rich cream, testing, say, 25 to 30 per cent. fat, never would be worth more than ten cents, there is no danger of losing money by adding cream to cottage cheese. One pound of cream to ten pounds of cheese is a fair ratio. In a cool place cottage cheese may be kept for several days. The softer the cheese the sooner it will spoil and sour. Always use good, clean skimmilk; do not let it become too sour.—Pacific Dairy Review.


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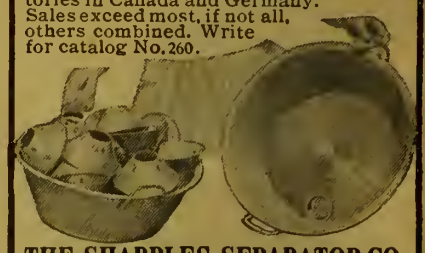

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## THROWING THE HORSE AND COW

For important operations the horse or cow is most easily confined by throwing. Many times, however, the farmer loses time and much of his good temper in performing this act simply because of no definite method. The following, known as the side-line method, is very satisfactory for throwing horses. Using a three-quarter-inch rope about forty feet long, double it at the center and at this point tie a loop about two feet long. This forms a sort of collar which is slipped over the horse's head. The free ends of the rope are then brought down between the front legs and each passed under the fetlock joint of a hind leg (preferably from within out), passed once around itself and the end then run forward through the collar. Assistants now pull backward on the ropes while the horse is backed. This draws his legs well forward and up on his sides. As soon as the horse is down the feet can be tied in this position with the rope.

For throwing cattle the half-hitch method is hard to beat. The rope may vary in size, but need not be larger than one-fourth inch and probably thirty feet long. The animal is confined by the head, one end of the rope tied to the horns or about the neck, a half-hitch taken about the animal's body just back of the fore legs, and another just in front of the hind legs. Then by simply pulling on the rope and tightening the half hitches, the animal will go down. Try it once and see how easy the cow falls.—Missouri Agricultural College.


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**Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

### HOW CATTLE TICKS SPREAD TEXAS FEVER.

The microscopic parasite which causes the disease known as Texas fever or tick fever of cattle is found in the blood of affected animals and is transferred from one to another by means of the fever tick. A remarkable feature of this transaction is that the disease-producing parasites are transmitted through the egg of the tick that draws the blood, and not directly by the old tick, as an engorged tick after dropping from the host (cow) dies without ever attaching itself to another animal. But its offspring, produced by the eggs laid after it drops off and before it dies, carry the infection and inoculate the first cow they get on.

The length of time elapsing between the exposure of susceptible cattle to infection by ticks and the appearance of Texas fever among them is dependent upon the climate and the development of the ticks. Thus, if northern cattle are placed on pastures, highways, or in pens, cars, etc., in summer immediately after the premises have been infested with ticks from southern cattle, Texas fever may occur in from thirty to sixty days, as the female ticks which drop from southern cattle must lay eggs and these must hatch before the northern animal becomes infested with ticks and thereby inoculated with the disease. After the seed ticks become attached to the animal the disease will appear in about ten days in summer or a somewhat longer period in winter. In fact, the disease may occur before the ticks are large enough to be seen without a very careful search.

One objection that has been advanced against the fact that the cattle tick is a carrier of Texas fever is that cattle are sometimes found to be suffering with the disease without showing the presence of ticks on their bodies. This condition in the case of southern cattle may be explained by the fact that the animal already had its blood infected with the parasites and under normal conditions was resistant to Texas fever; however, as a result of lowered vitality caused by some other disease, or by exposure, privation, injury, rough handling, etc., this resistance has been reduced and finally overcome, and the parasites at last succeeded in producing the disease. On the other hand, when this disease is observed in northern animals, the young seed ticks may be so small and so few in number as to be unobserved.

Under certain conditions, as when living on horses, mules, etc., the ticks lose their infectiousness, and when southern cattle not previously infested with any but these noninfectious ticks come in contact with infectious ticks they are just as susceptible as cattle raised on tick-free pastures.

Many cattle appear perfectly healthy and yet are infested with ticks and have the fever parasite in their blood. Sometimes the owners can not understand why such animals should be regarded as dangerous to others, and consider it unjust that they should be subjected to quarantine restrictions. The fact is that such cattle have usually contracted the disease in a very mild form at an early age and have become immune to further attacks, although still carrying the parasites in their blood. They are dangerous because the fever parasites in their blood may be transmitted at any time to susceptible cattle by ticks.

While the disease may be produced artificially by inoculating a susceptible animal with the blood of an infected one, it is spread naturally only by the ticks. By exterminating the ticks, therefore, the disease can be stamped out, and the quarantine can then be removed.

The discovery of the part played by the tick in the spread of Texas fever was made by the Bureau of Animal Industry of the United States Department of Agriculture in 1891, and the same principle has since been found to apply to the transmission of malaria and yellow fever from man to man by mosquitoes, and to the spread of certain other diseases.

In Kern County's Rich Pastures.

### ALFALFA FOR SWINE.

No community with high-class swine prominent in its husbandry is poor. No community with large areas of alfalfa can afford to neglect swine husbandry, for its people possess the material for economical pork production equaled by no others. Those who know it best are persuaded that alfalfa will grow, with varying degrees of thrift to be sure, in every one of the United States and in Canada. Hence it is not a mis-statement to say, speaking generally, that the American farmer without alfalfa is so through his own fault rather than through any fault of location, latitude, longitude, altitude, precipitation or temperature. These premises being correct, it would seem almost self-evident that he who would rear swine to the best advantage should have alfalfa, and, conversely, the man with alfalfa fields is provided with a part of an excellent equipment for profitable swine-growing. Either interest which is a stranger to the other should take early opportunity for a mutual acquaintance.

As a pasture or soiling crop for sows and young pigs, alfalfa proves a wonderfully helpful ration for milk-making in the sow and for growth in the pigs. Experiments have shown that pigs make better growth when the dam is fed considerable alfalfa than those from sows fed the best of commercial rations, but with no alfalfa. Of two sets of pigs, one fed clover, rape and soaked corn, and the other with access to alfalfa in lieu of clover and rape, those having alfalfa seemed to grow the more rapidly. For brood sows it is a most valuable food, either as hay, a soiling crop, or as pasture. The litters of such sows are generally large and vigorous and the dams have a strong flow of nutritious milk. Alfalfa meal in slop may be used with profit where the hay is not to be obtained. It is also claimed that sows fed on alfalfa during pregnancy will not devour their young, its mineral elements seeming to satisfy the appetite of the sow, while contributing to the fetal development of the pigs.

On a farm of former Governor Hoard, in Jefferson county, Wisconsin, all the brood sows have for several years been wintered on alfalfa hay of the season's third cutting, and their drink (skim milk from the dairy), without any grain until the last two weeks of gestation. Mr. Hoard says the object is to give the sows a food that will keep them in a non-feverish state and furnish protein sufficient to build the bodies of the forthcoming pigs.

A Finney county, Kansas, farmer reports having pastured 30 pigs on one acre of alfalfa from May 1st to September 1st, when they weighed 100 pounds each and were in fine condition for fattening. Another Kansas farmer reports keeping 100 pigs from about the middle of April to September on five acres of alfalfa pasture. A little grain during the last two months would have gained him many pounds of pork. Many alfalfa raising pig-growers insist that their pigs can be maintained from May to October on alfalfa for one-half what it would cost for almost any other feed.

The Utah station found that young shotes gained one-third pound a day on alfalfa pasture without grain. But the station found also that the gain was not so great in older hogs. A Wisconsin dairyman reported that he kept nine sows all winter and spring on alfalfa hay and skim milk, without any grain, and raised from them 75 pigs, all healthy and vigorous.

The Colorado station considers that a ration of three-fourths corn and one-fourth alfalfa hay is the best for fattening hogs for market, but for young hogs not ready for fattening the proportions should be reversed. The station does not recommend grinding alfalfa hay for hogs, probably on the theory that the hog's time is not worth much at best, and he can do his own grinding.—From Coburn's "Swine in America."

### MAKING A BRAN MASH.

Everybody is supposed to know how to make bran mash, but it is only in racing stables and large studs as a rule that it is properly done. To make a bran mash, first wash out a bucket with boiling water, then pour in the quantity of water required, say three pints, and stir in three pounds of bran. Cover and leave it for two or three hours or more, if not required for immediate use. A mash requires hours to cool off and is often given to a sick horse too hot and is refused when it would have been taken if properly prepared and fed when warm instead of scalding hot. The addition of a tablespoonful of salt to the ordinary mash can be recommended to keep down parasites and promote digestion, but should not be a part of the sick horse's diet unless specially ordered.—North West Poultry Keeper.

### PIG-EATING SOWS.

Sows may be kept from eating their pigs by giving them a great variety of food for two months or more before the pigs come along. It should include some animal food and plenty of salt.

The great mistake made by too many who attempt to pasture swine on alfalfa is in overstocking. There is a tendency or temptation to keep in a pasture more stock than it can comfortably support, with the result that the alfalfa plants are gnawed, trampled and rooted out, while the animals fail to prosper as they would under more rational treatment.—From Coburn's "Swine in America."

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# Small Fruits and Vegetables

## CABBAGE GROWING.

CABBAGE, like the onion and celery crops, is best adapted to a cool, moist, loamy soil. The cabbage is also a gross feeder, so heavy manuring of the soil is essential. This plant adapts itself to a great range of climates. However, we believe the very best product is produced in the mountain valleys, where the nights are always cool and the days not very warm.

The preparation of land for cabbage growing does not materially differ from that of other garden crops. It should, of course, be put in good tilth, and an abundant supply of well-rotted stable manure is desirable.

Cabbage seed must be sown six or seven weeks before it is desired to set the plants in the field. If sown in hotbeds, the seedlings are not usually transplanted until they are set in the field. The growing of plants in the greenhouse, or in hotbeds, is a trade in itself, the details of which must be carefully looked after. Seed for late varieties is usually sown in the open ground. Several sowings should be made.

Of recent years young cabbage plants have suffered greatly from the attacks of the flea beetle. In many instances growers have lost their entire plantings by the ravages of this pest. The only practical way to combat this insect on the young cabbage is to grow the plants in frames where they may be covered with thin muslin. The most critical time is when the plantlets are pricking through the ground. The shading afforded by the muslin at this time does no harm.

A bed 12 feet long by 6 feet wide will grow enough plants to set one-half acre of land. It is usually estimated that one pound of seed will produce plants enough for four or five acres of land.

After the land has been put in a good state of tilth, ditches are made in the direction that will make irrigation most easy. The distance between the ditches will vary from 24 to 36 inches, according to the variety grown. Rows 28 inches apart are perhaps most common. After the ditches are made, one man drops the plants 15 to 18 inches apart, and another follows to do the planting. The plants are set on the side of the ditch, and as soon as possible, water is turned in to follow the planter.

Water is run through the rows from four to eight days after the plants have been set, and sometimes this irrigation is repeated two or three times before the ditches are filled. When the plants have become well established, the ground is leveled either by hand or with a cultivator. While the cabbage is an easy crop to grow, yet it is quickly injured by improper irrigation. It will not stand a water-logged soil.

There are a few insect pests and diseases, and of this number the flea beetle is the most injurious. It can be controlled as mentioned above. Cabbage lice and cabbage worms are not usually abundant enough, under field conditions, to seriously affect the crop. The black rot of cabbage occurs some seasons. Its presence is known by a portion or all the cabbage head becoming soft, dark colored, and foul smelling. There is no remedy for this trouble, except possibly in the rotation of crops. However, it does not appear every year upon the same land, as is common in the East.

The cost of growing cabbages is estimated at about $33 an acre, and the average price for the past ten years has been 45 cents a hundred pounds.—W. Paddock, Colorado Agricultural College.

Pineapple Packing Houses in Honolulu.

## RAISING CRESS FOR MARKET.

The woman owning a bit of ground, across which runs a stream of water, is fortunate indeed; especially if the home lie within daily driving distance of a city.

For this low, moist ground, considered usually as so much waste space, may be made to yield dollars to the woman capable of grasping the possibilities of cultivating water-cress.

This delectable salad plant is more valued in these days than ever before, and the supply is never equal to the demand.

As the first step, have the stream cleared, ready for planting the cress. This may be done by plants or seeds, either of which may be procured from any reliable dealer. Better buy the plants.

Set two rows the entire length of the ditch. Pick up six or ten stalks, lay them at the bottom of the ditch near the side so the tops will be above the water, then two feet from there set another bunch of plants on the other side, anchoring the plants by placing a pile of earth on the roots.

If the plants must be home-grown from seed, make a seed-bed near the spring in soft, wet ground, but do not let the water run over it. Scatter the seed and press into the mud with a spade Transplant the plants any time when large enough to handle.

When the cress has grown and spreads over the top of the ditch, have it mowed close to the top of the water, clearing away all clippings so they will not choke the stream. When it grows up again fresh and crisp, you will be ready to market your product.

Place a plank across the ditch on which to sit, gather the cress with the left hand, and cut with a sharp knife, having the stalks about three inches long.

Bunch neatly, fastening the stalks with a rubber band, and cutting off squarely. Sprinkle lightly and keep from the sun until sold.

Cress may be sold for shipment, for consumption in the home market, or to individual customers, the price per dozen or per bunch varying with different localities.

If the cress is crisp and tender the matter of marketing will take care of itself, and the returns will be sufficient and sure.

Cabbages require frequent and thorough cultivation, especially at the start. As soon as they have recovered from the effects of transplanting, it is well to cultivate them and work as close to the plants as possible. A boy should follow the cultivator to uncover those that have been covered. As soon after a rain as the ground will permit is the best time to cultivate, but one should go through them once a week at least until they pretty well cover the ground.

# The Ornamental Garden

## PLANTS ABOUT THE HOUSE.

THE title of this article may be misleading, in a sense. I shall not treat of plants all through the house, but rather of plants located close to the house, set in such a manner as to hide the foundations thereof, and in the case of vines, its walls.

To the writer, a house with exposed foundations always seems unfinished. It needs the grace of growing plants to take away the bare look which is never pleasant, no matter how expensive the foundation may be. There is a beauty in leaf and flower that cannot be put into stone and mortar.

Perhaps I may be allowed to use this expression—the use of plants close to the house, while not detracting in the least from the dignity and importance of it, prevents us from looking upon it as something that boldly challenges the attention—an idea not in keeping with the homesense which ought to characterize the building in which those live who care less for show and admiration than for beauty. All of us have seen houses which seem to absolutely force themselves upon our attention. We may admire them, in a way, but it is a way with which the idea of home is not associated.

They have too public a look to suggest hominess. But if shrubs, and perennials, and vines were planted about them, their aggressiveness would be hidden, or at least modified, and we would soon begin to think of them as homes instead of houses.

I don't know that the reader will get just the idea I have in mind, at first reading, but little thought along this line will soon make it clear to him.

No very tall-growing plants should be used anywhere about the house if they will interfere with the outlook. Windows are made to let in light and sunshine, and we cannot afford to darken them with bushes or vines. The windows are darkened, free outlook is interfered with, and the general effect is monotonous.

One vine, planted at the corner and trained along the cornice, over the windows, with a few branches allowed to droop here and there, would have given a much more satisfactory effect. A vine used in this way has a chance to display its individuality. You see all its charm of leaf, and habit of growth.

The best plants to use about the base of the house are those which do not grow much higher than the wall. Among hardy kinds there is nothing better than Dicentra, the dwarf varieties of perennial phlox and the herbaceous Spireas. Along with these can be used such annuals as the Nasturtium, Nicotiana, Aster, Ten Week Stock and Coreopsis. Here Geraniums and Coleus can be made to do duty in summer.

Bulbs for early blooming can be scattered along the outer edge, close to the path. To edge the planting, Pansies, Bellis perennis, and the low-growing varieties of Phlox can be used effectively. To furnish brilliance in midsummer, the Gladiolus can be planted in groups here and there, and the Tuberose to give bloom and fragrance later in the season.

Indeed, these about-the-walls collections can be made up of a "happy family" of plants that will give a vast amount of pleasure because of lack of formality in arrangement, and because of genuine merit possessed by them. Homey, old-fashioned plants will please best of all, because they will be in keeping with the character of the place they beautify.—Am. Farm World.

## THE BACK YARD VIEW.

A woman writer in a recent number of the Outlook discusses the "back yard view" and inquires it there "could be anything more uninteresting and forlorn than a row of back doors?" This has no doubt occured to many observing people and as the writer asserts it presents an "overwhelming picture of the failure of man to rest himself comfortably, simply and beautifully, and it is a tragedy of civilization that he has failed so signally in solving it."

In reply to this a Boston exchange says: Let us regard it rather, as a triumph of civilization that he is succeeding, if slowly yet against tremendous odds, in bringing the problem within measurable reach of solution. Unless we at times look back over the road upon which we are journeying we cannot form a fair estimate of the difficulties we have surmounted or the progress we have made. It is too true that there may still be found in our cities and town veritable deserts of monotonous weariness, and that beauty in our day continues to pause too often at the village outskirts; but it is equally true that the modest city, town and village are vastly more attractive than the city, town and village of a half century ago.

Moreover, men and women in great number, with great disregard for their own time, leisure and comfort, with great civic pride and with great love of the beautiful, are transforming the very scenes, to which the Outlook writer refers. As a result of a few years' faithful work on the part of municipal art leagues and backlot societies, there are great districts in all of the big cities of the country today, east as well as west, which are laid out and built up, and kept up, with regard to the elimination of back-yard ugliness.

Although an immense amount of work must be done among the mansions, apartments and tenement houses before anything bordering on ideal conditions can be reached, there is nothing in the situation or the prospect that is hopeless. On the contrary, seeing that people are becoming more and more discontented with the bare, the desolate, and the ugly, and more and more attracted by the things that are bright and beautiful, there is all cause for encouragement.—San Jose Times.

This question is not only a live one for mansion and tenement, but for the rural back yards as well. There are possibilities for wonderful talent in a back yard lawn and flower bed.

---

These thrive in the sun: Verbenas, nasturtiums, phlox, petunias, nigellas, geraniums, candytuft, cypress vines, thunbergias, hyacinth-beans, morning-glories, and in fact almost all of our bedding annuals.

---

Never slit the bark, bore holes or drive nails into trees.

## GARDEN NOTES.

Do not cut out large limbs.

Prune annually, but never heavily.

Wounds heal more rapidly in spring.

Heavy pruning conduces to wood growth.

Never use a hatchet for removing suckers.

Avoid injuring the cambium in any way.

Don't leave your pruning to the hired man.

The more you understand trees the better you will prune them.

A severe heading-back will renew the tops of old peach trees.

In transplanting be careful of the root-hairs.

In transplanting cut back top and root.

Drastic pruning strikes at the vitality of the tree.

Do not start all main limbs at the same height.

Summer pruning induces fruitfulness.

Torn wounds are generally fatal.

Paint over the large wounds.

Trees are delicate structures and require careful handling.

A heavy pruning is always followed by a heavy growth of suckers.

Never allow stock to prune your trees.

Unpruned, uncultivated orchards are not money-makers.

The orchards is not a profitable source of firewood.—Orffs Review.

## CHANGES OF THE CHAMELEON ROSE.

White in the shade, red in the sun, such is the two-fold character that has given a name to the chameleon rose. At night, or when it is carried into a dark room, it assumes a wax-like whiteness. This does not occur abruptly, but the petals first pass through a blush tint, which rapidly changes into a very pale rose, and finally ends by becoming the purest white. Then, if it is taken into bright sunlight, with the greatest rapidity it resumes the scarlet tint of the most brilliant peony. This horticultural phenomenon comes from Japan, that country of magic gardens and wizard horticulturists.—La Petit Jardin.

---

Water from the hose that has been lying in the sun for a few hours is hot enough to kill grass on the lawn or flowers in the beds.

A narcissus bed may be used for petunias without removing the bulbs. Bend the tops down; set the petunia plants between the rows. The soil should be worked up two inches deep and a liberal supply of commercial fertilizer or chicken manure worked into it. By the time the narcissus tops die the petunias will be large enough to occupy the space. Water applied to the bed during the summer will not injure the sleeping bulbs.

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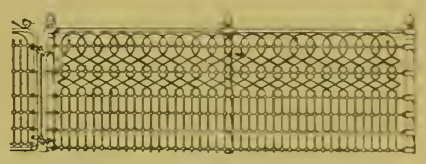

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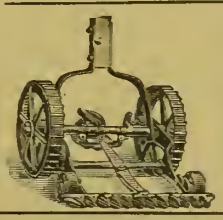

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Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, July 29, 1909

Address All Communications to
CULTIVATOR PUBLISHING CO.
115½ No. Broadway, Los Angeles.
733 Merchants' Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY
H. A. PERKINS, EDITOR AND GEN. MGR.

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FRANK H. THOMAS - - - Advertising Manager
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Entered at the Post Office at Los Angeles, California, as Second-Class Matter.


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## HAVING CALIFORNIA'S EXPERIENCE.

The effort to bring the orange growers of Florida together in a co-operative marketing organization is resulting in much the same tactics from the opposition, apparently, as were used in the California fight at the beginning of the organization of the exchange. The orange growers of Florida have drawn upon our state for two excellent workers, one for permanent service in the business management, in the person of Mr. R. P. Burton, formerly sales manager with the California exchanges. Mr. J. A. Reid, secretary and manager of the Semi-Tropic Exchange is using his logical arguments to bring the Florida growers together. Mr. Reid has had experience here and we doubt not is giving some good co-operative gospel to the Florida growers. But we note in the Florida Fruit and Produce News, which has been chosen as the official organ of the Florida Citrus Exchange, a "Warning To Growers" in which they are urged not to "bind yourselves or contract to sell your crop at any price until after the big orange growers' convention is held in Tampa." Plainly the buyers and contractors are anxious to entangle the producers in agreements before the exchange can be placed upon its feet.

The exchange in Florida can encounter no more bitter fight in its organization than did the growers of California, and this should not discourage them for one moment, for if it does, the strenuous efforts which have been made are liable to fail, and the chaos and poor results of the past few years will be the lot of the growers of that state.

The fact that the energy of the few is bringing the Florida growers so near together may give an advantage to the grower who prefers to remain outside, but only for the time being, for if he lets his narrower selfishness dictate instead of encouraging that which will be his ultimate salvation, he may let the penny before his eyes blind them to the dollar farther beyond. The present effort on the part of the Florida growers will be a measure of the intelligence of the people of Florida. If it fails, it will show that they have not sufficient grasp of the situation before them to impel them to take the steps necessary for their final success.

## BEGINNING RIGHT.

We have just received a copy of "Conservation of Resources in California," a pamphlet of about one hundred pages taken from the twenty-third biennial report of Edward Hyatt, Superintendent of Public Instruction of California. It is a departure from anything we have ever seen in a report by a Superintendent of Instruction. It was inspired by the call of President Roosevelt for the conservation commission, and takes the stand that the question of conservation is of vital concern to the greatest and most brilliant minds of our day. In his foreword, Superintendent Hyatt says of the question of conservation: "It is vitally important, for without it our nation is doomed to go down to poverty and weakness. It is unselfish, for it looks forward to the welfare of those who come after us rather than for our own little personal benefit now. I have become possessed with the idea too that it is highly important for the school people of this state to join in this movement; for them to grasp its significance, appreciate its momentum, take hold of it strongly and intelligently. Such a movement as this must fail unless it can be projected into the future."

The book is full of suggestions which may be used by teachers in school work or by pupils in special debates, recitations and essays.

It cannot be said that this movement means any great change in the sentiment regarding conservation for today, or possibly for this year, but ultimately we believe that great good can be shown as the result of this step in the schools of California. We trust that every teacher in the state will enter into the spirit of the movement.

## FROZEN ORANGES.

In its issue of June 10th under the caption, "Dried Fruit," the Cultivator took occasion to refer to the injury of the citrus fruit market through the shipping of "pithy, punky, dry 'rag'," which is the name sometimes given to fruit resulting from the severe cold weather of the past season. We referred to the fact that many sections of California have produced some exceptionally fine fruit which has been exempt from injury by frost, and we added, "Every effort should be made to protect the market for this good fruit, and the most assured way to do this is to cull out all dried, punky oranges, even if they have been shipped under no-name labels, and so keep them from injuring the industry." It is plain that the injury to California fruit has been much more serious than most orange growers were willing to admit earlier in the season. Even yet Valencias are going forward which have been frozen so badly as to contain but little juice or to be at least, as one grower expresses it, "in a state of insipidity."

One of the large Valencia growers of the state who has visited as many groves as any, finds that some sections show a very great amount of the injured fruit and unfortunately much of this injured fruit is still going forward to the market. The discovery of this condition caused him to cast about to find a possible method of controlling the shipping of this undesirable product. He does not claim that he has yet reached definite, satisfactory conclusions, but he presents a suggestion as to a means of solution of the problem which may at least inspire discussion. His proposition handed to the Cultivator is as follows:

"It is pretty well agreed by all citrus growers and shippers that the placing on the market of frozen oranges hurts the sale of the sound fruit, and that California—or for that matter, Florida—has never yet experienced a 'hard freeze' when the citrus market for that year has been satisfactory even to the shippers of A-1 fruit. How to prevent the forwarding and placing on the market of the damaged fruit to the detriment of the good, has been a problem that has kept many of us guessing. I believe that the solution of this important matter lies with the United States Government. Let inspectors be appointed at all large markets and have the fruit inspected as are other food products. Frozen fruit is injurious to health.

"When a few cars have been condemned early and dumped, with the attendant financial loss, I believe Mr. Grower and Mr. Shipper will take no more chances at this end. An examination by a government inspector would be fair to all. With the enormous citrus crops that we shall have in a few years—in fact now have—we cannot afford to be independent and force poor fruit on the public.

"The Exchange could take this matter up in the proper channels at Washington and, I believe, could arrange it satisfactorily. The details of the plan would have to be thought out carefully. I am merely making a suggestion that I am sure could be worked out to the general good."

As soon as we had read the above, there came to our minds innumerable questions, as will probably be the case with every citrus grower. "Who will pay the expense of the inspection?" "How many inspectors will be required to meet the cars at all eastern points?" 'Will it not give the industry a black eye to have it proclaimed broadcast that our oranges are frozen?" These, with a thousand and one other questions will spring to the mind at once. But something must be done, and the suggestion submitted possibly may serve as a starting point for definite action along this line. As the subscriber says, it depresses the market and creates a distruct so that the good fruit which is shipped commands only indifferent prices. Perhaps it would be a better plan to have the inspectors located at this end of the line. A good system of inspection could be maintained by having inspectors from the department who would have no prejudicial interests in California. Of course, every fruit grower lives "in the choicest section of the state and his particular community has no frosted fruit," but a neutral inspector who knows the fruit only by car number and can examine it and determine whether or not it is injured, is qualified to pass it on to its destination or order it dumped.

At the beginning, such a system of handling our fruit would work great injury to some who happen to be in the frosted sections, but it would soon create care in growing and packing the fruit that would ultimately lead to justice and, we believe, profit to all.

It is well known that the frosty sections of California vary from year to year. A section that is injured badly this year is exempt the next year or for a period of years. There is nothing gained by saying that the frost does not visit our citrus sections. It does, or at least may in a period of years, and a frank discussion of methods of prevention and of holding back the fruit so that it will not injure the market, will prove of great value to the producers.

## INCOME OF CITY FROM FORESTS.

The Cultivator recently had a short article referring to a city in Germany which, through its management of a large forest belonging to the municipality, was able to conduct its municipal activities without any taxation, owing to the income from the timber. The matter has been referred to by some of the daily papers of our larger cities and attention called to some desirable features which might be carried out in this country. For instance, the city of Los Angeles has had larger acreage in one body given to it for a city park than has any other city in the world. In this body of land are several thousand acres of land which could be planted to eucalyptus or other trees which in time would be a very large factor in bearing the expense of municipal government and, at the same time, answer admirably the purposes to which the park was dedicated.

# Agricultural Notes of the Pacific Coast

## Northern California

Early table grapes have been in light supply.

Canners at Healdsburg are paying only nine dollars per ton for tomatoes.

The red spider has injured many hop yards along the Sacramento River.

Work has begun on the levees of the new reclamation district just north of Sacramento.

The California fruit distributors recently sold 62 carloads of fruit in one day at various eastern points.

The Chico cannery which is the property of the California Canners' Association will not be operated this year.

The Sacramento Valley Development Association is taking every opportunity to make known the advantages of that section.

Green decidduous fruits shipped this year have commanded on an average from three to four hundred dollars more per carload than was received last year.

At a recent meeting of the Calaveras-Alpine Stock Association it was decided to encourage the improvement of the range in the Stanislaus National Forest.

P. H. Dorset, founder of the plant introduction garden at Chico, has been appointed chief of the government plant introduction department. W. W. Tracy is in charge of the Chico garden.

Apple growers of southern Humboldt county have organized for the sake of securing better returns for their fruit. One factor of the work will be inducing members to be more careful in growing and packing.

A strong company of Eastern capitalists has purchased the holdings of the Central Counties Power Company and other interests, and it is rumored it will expend ten million dollars in developing water in the Sierra Nevadas.

Articles of incorporation of the Geyserville Prune Growers Association have been filed. The first directors of the company are: George H. Larkin, E. Moody, F. A. Cook, C. R. Miller, Victor Seeman, S. H. Young and W. S Vaughan.

Experts from the State Agricultural College have been experimenting for the past two years in the Castro Valley near Haywards in the growing of belladonna. It is reported that two crops a year may be secured and an aggregate of ten tons per acre for the season.

Since Gridley and Chico have sprung their quarrel as to which has the largest oak, other counties are coming in and setting up their claims. Mendocino county now claims she has one thirty-two feet in circumference which it is estimated would make seventy-five cords of wood.

At the recent annual meeting of the Sutter County Almond Growers' Association, bids for this season's crop were received. The bid of the Guggenheim Company was accepted but prices are not mentioned. It is understood, however, that a material advance over last year's price has been offered.

## Central California

Corcoran sugar factory is slicing 325 tons of beets per day.

Dinuba Farmers' Union is building a packing house for handling fruit.

A large increase of acreage of alfalfa is noted at Turlock this year.

The farmers' union is shipping actively of the cantaloupe crop from Turlock.

The Tulare county Eucalyptus Timber Co. will plant 480 acres to eucalyptus trees.

Beets delivered to the sugar factory at Corcoran this year have ranged as high as 24 per cent sugar.

Visalia grape growers began shipping seedless sultanas in carload lots as early as the middle of the month.

The farmers' union claims that it will handle from 1500 to 2500 cars of San Joaquin Valley melons during the season.

The arrest of a creameryman at Dos Palos, Merced county, for making improper returns for cream resulted in his acquittal.

It is rumored that the farmers' union has 40 cars of raisins stored in various eastern points awaiting more satisfactory market conditions.

Dinuba sent out eleven cars of melons in one day last week. The shipment would have been greater if it had been possible to secure empty cars.

Representatives of six farmers' institutes and co-operative unions, meeting in Turlock recently, decided to erect a packing plant for deciduous fruits.

The perfecting of the organization of the state farmers' union has given fresh interest to the securing of new members, and many are now joining who had formerly refused.

One hundred and twenty-five wagon loads of melons were delivered in Dinuba in one day, and at one time a string of wagons two blocks long was waiting a chance at the scales.

At a recent meeting of the board of directors of the Turlock Irrigation District, land was acquired for a right of way for a new canal for extension of the irrigation system.

The Pacific Coast Trotting Horse Breeders Association meet and the twenty-seventh annual exhibition of the Monterey District Agricultural Association opens in Salinas August 4th.

The report that the California Fruit Canners Association would not operate their Hanford plant this year is denied, and it is now claimed that it will take care of a large quantity of fruit.

Much interest has been manifested in the planting of orange groves in the past year in eastern Fresno county, and the foothill sections which are eligible for citrus planting are now in demand.

Great interest is being shown by farmers in the experiments of Prof. Shaw in developing a new wheat of the bearded type which, under ordinary circumstances has yielded at the rate of 63 bushels per acre. This wheat has been tested by a number of farmers in the vicinity of Arbuckle, Williams and Maxwell during the last season, over 3,000 acres being grown.

## Southern California

Imperial Valley cantaloupe sheds are now being changed over into grape packing sheds

Imperial and Coachella Valleys imported 42 expert women grape packers from Fresno county.

An improved road from Banning to Idyllwild is considered by the supervisors of Riverside county.

The lemon growers of Highland are discussing the building of a scientifically constructed lemon house.

Dumps for the cheaper handling of beets have been erected in nearly all beet growing sections of California.

Experts of the State University will investigate mealy bug menace and it is hoped a remedy may yet be found.

Seedlings and sweets are practically all shipped leaving the field open for Valencias for the rest of the season.

The grass fire near Lake View, Santa Barbara county, destroyed hay to the value of nearly $10,000 last week.

The state organizer of the farmers' union is in Imperial endeavoring to form a local branch of the organization.

The Lima Bean Growers' Association of Ventura county is practically organized and ready for the coming campaign.

The Imperial Valley Bee Keepers' Association has an offer from Germany for ten cents per pound for the output of the Valley.

Lemon men are pleased at the fact that the conference committees of the Senate and House have united on the one and one-half cent lemon tariff.

A representative of the Missouri botanical gardens is in California studying the various cacti collections and has visited the one at Riverside.

Many irrigators heretofore connected with the Imperial Water Company Number One, propose to segregate their holdings, forming a new company.

The plant disease laboratory at Whittier will continue during the coming year its investigations as to an English walnut immune to bacterial blight.

There is a very good prospect of a fine crop of walnuts in and around Santa Barbara and Goleta, and there seems to be no evidence of blight that can be noticed.

It is reported that this year's walnut crop will not exceed 75 per cent of last year's. The blight proved to be much worse than was anticipated earlier in the season.

An effort is being made to perfect an olive growers' association of the growers at Santa Barbara and Carpinteria. They held a meeting last Saturday with that object in view.

Some cabbage growers of the Imperial Valley are loud in their opinion that the fruit and produce company that has handled their output for this last season has buncoed them.

A movement is on foot by which it is hoped to increase the amount of water used by irrigators of Orange county. It is simply the development of greater capacity in the canal from Santa Ana Canyon.

## The Coast

The new crop of hops is promising to bring good returns this season.

Heavy rains at Wallowa, Oregon, caused the lodging of much wheat.

Colfax, Washington, reports that the harvesting of wheat will be begun about August 1st.

Idaho is agitating the question of separating the agricultural college from the state university.

Some of the largest apple growers of Washington report excellent outlook for the apple market.

Placer county is to vote upon an issue of bonds in the amount of $125,000 for road improvement.

The first of this season's wheat to reach Portland was unloaded at the elevator there on July 12th.

Investigations are being made with the idea of establishing a beet sugar plant at Redding, Shasta county.

Cherry growers at Clarkson and Asotin Washington have netted a fortune from their product this year.

The Philippine Islands produce coffee of fair quality but not sufficient for local consumption and much is imported.

The state dairy inspector of Washington has closed two slaughter houses until they can report in more sanitary condition.

The wheat yield of Washington, Oregon and Idaho is estimated by the Portland Oregonian to reach 55,000,000 bushels this year.

Apple shippers of Washington and Oregon maintain that their fruit has commanded higher prices in Germany than fruit from any other state.

Over 3,000 acres of pineapples are now growing in the Hawaiian Islands and it is estimated that within a few years there will be 10,000 acres in bearing.

The Alaska wheat which bobbed up last year as such a fake proposition is again before the people because of the promoter donating large quantities of it to millers to grind into flour.

James J. Hill of the Great Northern reports the crops of eastern Washington as exceptionally heavy this year, and that freight cars will be at a premium to handle the immense crops.

Wild grasses have so overrun some plantations of the Philippine Islands that former cultivated lands have been deserted and it has been found more economical to reclaim wild forest land which has not been infested with the weeds.

Speakers representing the apple growers of the Walla Walla Valley, Washington are canvassing the apple growing sections of the state, agitating against the enactment of the Lafean bill which attempts to establish a size of box different from that heretofore used on the Pacific Coast.

An acre of pineapples in the Hawaiian Islands produces as first crop about ten tons; the second or ratoon crop will bear about twice that amount. Cannery prices this year year have ranged from $20 to $27 per ton. Some fruit shipped to the Pacific Coast has averaged as high as $200 per ton for the fresh fruit.

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The Master of the State Grange will be in San Jose, July 24th, to initiate members.

Governor Gillette has appointed J. R. Murphy of Fresno member of the state dairy board.

# Profit in the Poultry Yard

By Mrs. Frank Metcalf

**We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.**

### Indian Runner Ducks.

How many Indian Runner Ducks could I raise on one acre of ground? Into how many pens should an acre be divided? How large should the runs be for each pen, and on what plan should it be built? How high should the fence be around the pens? Would it be best to plant fruit trees or grow alfalfa in the pens? Should there be a stream of water running through the pens for the ducks to swim in? What time of year should the eggs be hatched? What rations should be fed at all times?—J. A. B., Hanford.

The number of ducks that may be raised upon an acre of ground would keep a man pretty busy, for they do not require very much room to roam about when small and are usually disposed of at ten weeks of age to the best advantage. If I had the laying out of an acre of ground I should sow one-half of it to alfalfa for green feed, and make pens for my breeding stock and young birds on the other half which would be 100 feet by 200. Ten females and a male constitute a breeding pen, and each pen should have a yard at least 25x50 feet, which would take 100 feet square for eight pens. In each pen should be sunk a half barrel or a cement tank for water, if running water is not available. A handy way to arrange for cleaning these as described in Mrs. Basley's Poultry Book, is to take a barrel and saw it in two unequal parts, one twice as deep as the other. The end containing the hole is the smallest end, and the other has the head knocked out and a place dug for it in the ground. Then the other piece is set inside, and filled for the ducks. When cleaning time comes, the plug is pulled out, and the water sinks down into the cavity below, where it drains away without causing filth or trouble. The plug is then replaced and fresh water turned in for the breeders, which is a necessity for their health.

These yards must be frequently swept and fruit trees should be planted in them to provide shade. A duck house need not be very large, and may be quite low, as they sleep on the ground, and one four feet wide by six long should be large enough for each pen, open on one side. The fence need not be over three feet high.

From February to July is the best time to hatch, as eggs run more fertile then than later. For the breeding birds, feed three parts wheat bran, one part corn meal, five per cent beef scraps ground fine, five per cent grit and one part quaker oat food, with all the green feed they will eat, which may be corn fodder, oats, or alfalfa, cut very fine. While laying, more cornmeal may be fed, and turnips, potatoes or carrots boiled and fed cold, with cabbage chopped fine and oyster shells and grit always before them.

For the young ducks, no water is required excepting for drinking. The first food may be hard boiled eggs chopped fine shells and all, mixed with dry bread crumbs and chopped onions, sprinkled liberally with coarse sand. This sand is the most necessary part of their first food, and must be mixed with it, so they cannot eat without getting some of it. The second day a little rolled oats and bran may be added to their ration and a little finely cut clover, lettuce, or cabbage may be added, not forgetting the coarse sand. At ten days old the food should consist of three parts wheat bran, one part alfalfa meal, two parts corn meal, ten per cent beef scraps, and the same of green feed. Plenty of grit should always be used. At eight weeks old, feed equal parts bran and cornmeal, with a little rolled oats and beef scraps, never forgeting the grit, but no green food, and at ten weeks they should be ready for market, plump and tender. They should be fed four times a day until six weeks old, then three times will do, with water at each feeding. After six weeks they should have water between meals. Feed only what will be eaten up clean at each meal, never leaving any to sour. Keep the pens dry and clean, and be sure to give shade. The sweeping from the yards should be put upon the alfalfa, scattering it well over at each cutting.—Mrs. F. M.

### Worms.

I have noticed in dressing the last few chickens for the table, that there was a worm in them about two inches long. What shall I feed to rid them of this? They have the run of the orchard. I feed kaffir corn and cracked Indian corn and they seem lively and healthy. I found, too, that our fox terrier dog has worms. What remedy can I use and how shall I administer it? He is very averse to medicine, and we can scarcely get anything down him. What shall I put in his bath water to kill fleas?—Subscriber, Redlands.

Sulphur is a good remedy for worms and is easily administered to the chickens by mixing thoroughly in the mash, a tablespoon to a pint of whatever wetting is used. A little salt is also advisable, helping the system to throw off the worms.

For the dog, there are advertised remedies to expel the worms, but if the sulphur can be gotten down him in any way, it will help him, as well as the chickens. Maybe he would eat worm candy. For the fleas, a two per cent solution of creolin will rid him of fleas, if he is bathed thoroughly in it. A string saturated with oil of pennyroyal tied about the neck is said to keep them away, but I have never tried the latter on our dog. Salt and water is good to bathe dogs in for fleas, and is always cheap and handy, and very objectionable to the flea gentry.—Mrs. F. M.

### Trouble With Chickens.

My neighbor has two hens that have hard lumps, just like warts, on their combs and gills, also on their eyelids. They cannot open their eyes unless we wash them out occasionally. They have none on their bodies, and their combs are red and they seem perfectly healthy otherwise. Will you please advise what causes this and what can be done?—Mrs. S. E. M., Hemet.

This acts like chicken pox, which is a sort of fungoid disease, said to be caused by too much starch in the food. Wash the places with warm soapsuds, to which is added a few

drops of carbolic acid, and anoint with carbolic salve. Feed a little sulphur and chopped onions. Separate and watch for symptoms on the well birds, as it is very apt to be infectious.

### Sluggish Liver.

What can I do for my full blooded Barred Plymouth Rocks? No certain age seems to be exempt. They begin to droop, get weak in their legs, want to isolate themselves. What passes from them looks like part sulphur. Upon opening the dead ones I found something wrong with the liver. Sometimes it would be of abnormal size, broken and would fall apart at a touch. Sometimes it would be a little larger than natural and filled with hard, yellow lumps. Have killed several ailing ones and found their livers in the same condition as I have described. They have the run of the ranch, plenty of clean water, gravel, oyster shells and mortar, some burned bone, green stuff from the garden, wheat headings, (unthreshed), to run to whenever they wish and plenty of shade. Are housed in houses 8x12, with about 36 in each house. Hoping to get help through your valuable paper, which has helped me many times before.—H. W. B., Pixley.

Too much wheat will almost invariably cause this liver trouble, as I have found to my sorrow in days gone by. A vigorous physic is necessary to act upon the liver, and a good pill should be given to each bird, and the diet regulated at once. Try and keep them from the wheat heads for a while, if possible, and if not, feed them a mash composed mostly of bran and cornmeal in the proportion of one-third cornmeal to two-thirds bran, in which you may mix a teaspoon of cayenne pepper to every gallon of mash, and moisten with skim milk if that can be had. If they fill their crops with this early in the morning, they will not be so apt to get too much of the wheat.

I never had this trouble with fowls running at large, but only when confined closely, and in that case used to make catnip tea by the gallon and mix leaves, stems and all, in the mash, which would correct the trouble very nicely. Barred Rocks are naturally great eaters, and are the most liable of any breed I ever handled to become too fat for their own good, if given all they will eat. This makes them excellent for the table, but is hard on the liver, as they will not take enough exercise if fed too lavishly on rich food.

If the flock is a very large one, and the pill not easily administered, mix a liberal supply of sulphur and molasses, and wet the morning mash with some of this, an old-fashioned, but excellent remedy for sluggish livers. The proportion should be a tablespoon of sulphur to each pint of molasses.—Mrs. F. M.

### LIMBER NECK

Soon there will be a clamor to know what produces limber neck. Limber neck is an ailment affecting poultry of all kinds, characters, and ages. Sometimes the head will be twisted clear around; at other times the head will hang down, bending the neck against the body as though it were a useless portion. The fowl attacked goes stumbling about like a crazy person with fits. This is a fair description of limber neck.

This is the result of eating putrefied meat full of maggots. When the putrefied meat and maggots get into the crop, they grow and increase, propagated by the natural heat within. Being alive there is no possible chance for them to be passed from the crop into the gizzard and destroyed. They live in the crop, irritating it, and causing the ailment known as limber neck.

To prevent this ailment attacking the poultry, never allow any dead animal or fowl, or decayed meat, to lie about and become putrefied. If eaten by dogs or children this will produce fits or death in them the same as with poultry. If there is no putrefied meat and maggots for them to eat, there is no danger of limber neck.

When the fowl is attacked with this ailment, as quick as noticed, take up the fowl, gently pour a tablespoonful or more of turpentine into the crop, and work it gently about with the hand. Pour a sufficient amount of warm water into the crop to fill it as full as possible. Hold the fowl up by the legs, head down, over a box or barrel partly filled with earth, and gently work the entire contents out into the box or barrel. Again repeat the dose and wash out the crop a second time. Follow this with a tablespoonful of castor oil, and place the fowl in a box or coop by itself, where it will speedily recover or die. It is scarcely worth while to spend much time doctoring the common run of poultry. Better destroy them and burn them and burn their bodies. Never leave anything about that might cause this disease. The contents of the barrel or box and the barrel or box itself should be burned. —The Feather.

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We never have been able to determine why the all-wise Creator made the rat and endowed him with such a ferocious appetite for little chicks, but he's with us, appetite and all, and unless we watch out he will create havoc with our early hatches and, possibly, make us say things that would not look well in print. Use every precaution to protect the chicks from rats.

---

Don't fool away time on that weakling or sick cock. Chop off his head and put your money into a good one. It is economy in the end.


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At this time of year the hens are apt to begin falliug off in their laying, and it is necessary for poultrymen to keep them up as long as possible. If they stop laying too early and start molting, they are likely either to take a long time over the molt, or if they molt quickly to have another molt in the late fall.

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# Bees and Their Care

By Henry E. Horn, Riverside

### TREATMENT OF FOUL BROOD.

FOUL brood, the most common form of contagious bee disease and by far the most disastrous, is so widely distributed that it may appear at any time in localitles now free from its ravages. This condition of affairs makes it very important that all persons keeping bees should have a knowledge of the symptoms of this disease, so they may be able to detect it, and properly treat it, before it shall have devastated their yards.

In the advanced stages of this disease the colony becomes weak and listless, and upon opening the hive a very disagreeable odor will be noticed, resembling somewhat the odor from the melting of a poor quality of glue. In lifting the combs out of the brood nest, it will be found that a large per cent of the unhatched young bees are dead in the cells.

Those that have been sealed over will have the cappings sunken and perforated, causing the comb to have a ragged and uncomely appearance.

The dead larvae, if punctured with toothpick, will draw out in a ropy thread like melted glue or rubber. This dead larva finally dries up into a tightly adhering scale, which sticks to the lower cell wall so tenaciously that the bees are unable to remove it. These dried down scales may be seen by holding the comb in such a position as to admit the rays of sunlight directly into the lower part of the cell. In the earlier stages of this disease, all these symptoms may not be noticeable, possibly only a few cells may contain dead larvae.

But the ropy consistency of the decaying larvae and the disagreeable odor peculiar to this type of disease, furnish an almost unmistakable key to the diagnosis of American foul brood.

Dead larvae from other causes will have a bad odor, which is simply that of decaying dead bees, and the decaying matter may have a very slight tendency toward ropiness but hardly noticeable. Such symptoms, as these, arising from chilled, starved, overheated or polsoned brood, shoulc not be hastily judged to be foul brood, a thing that the inexperienced is too likely to do. If at any time symptoms of bee diseases are found that create a suspicion, and doubt is sustained as to what the real trouble is, then the inspector should be notlfied, giving him as complete a description of tne trouble as possible.

European foul brood (often called black brood) is a form of disease resembling American foul brood in some respects. The comb will have that repulsive and haggard appearance. The brood that has been sealed will have the sunken and perforated cappings. But the larger per cent of the the dead larvae will remain unsealed. The dead larvae, when touched with a stick, do not show the ropiness found in the American type. There may be a very slight tendency toward ropiness, but it is not very pronounced. The odor in this disease is that of soured dead brood.

When the dead larvae become dry, it is in the form of an irregular scale, which does not stick so tenaciously to the cell wall as that in the American type, and the bees sometimes succeed in cleaning them out, and the disease apparently disappears. This disease ls more likely to affect drone and queen larvae than the American. Dead larvae in a sealed queen cell, sometimes are the only evidence of disease having been ln that hlve, others having all been cleaned away. European foul brood is considered by many to be more infectious than the American and to spread faster.

For the treatment of foul brood, both American and European, the following known as the McEvoy treatment, slightly modified, ls a safe and efficient method:

In the honey season, when the bees are gathering honey freely remove the combs in the evening and shake the bees into clean hives; give them five or six frames with comb foundation starters and let them build comb for four days. The bees will make the starters into comb during the four days and store the diseased honey in them, which they took with them from the old comb. Then in the evening of the fourth day take out the new combs and give them comb foundation (full sheets) to work out, and then the cure will be complete. By this method of treatment all the diseased honey is removed from the bees before the full sheets of foundation are worked out.

All the old foul brood combs must be burned or carefully made into wax after they are removed from the hives, and all the new combs made out of the starters during the four days must be burned or made into wax, on account of the diseased honey that would be stored in them. All the curing or treating of diseased colonies should be done in the evening, so as not to have any robbing done, or cause any of the bees from the diseased colonies to mix and go with the bees of healthy colonies. By doing all the work in the evening it gives the bees a chance to settle down nicely before morning, and then there is no confusion or trouble. Everything should be made ready beforehand, so when the proper time comes the work can be done quickly.

Caging the queen while the bees are on the five or six strips of foundation helps to prevent the bees from deserting the hives.

In burning diseased combs, they should be burned after night in a pit dug ln the ground, so that there will be no danger of honey running on the level surface. If combs are heavy with honey, the application of a little kerosene will hasten the burning. After the burning is finlshed, replace the fresh dirt, covering all from sight, thus preventing robber bees from carrying off honey that might not be sufficlently heated to kill all germs of disease.

Do not burn good hives. They can be very cheaply and easily disinfected by lightly painting the inside surface with gasoline or kerosene, and then applying a match. If too much oil or gasoline has been used and the hive or hives are likely to be injured by the burning, close them up tightly and smother the flames out.

When diseased combs are to be worked into wax, they should be melted ln boiling water, as sun heat is not sufficient to kill the disease germs.

This method of treating foul brood can be carried on at any time durlng the mild weather when bees are not gathering honey, from the opening of spring until late in the fall, by feeding plenty of sugar syrup late in the evening, to take the place of the honey flow. Great care must be exercised in this, not to start robbing. —Exchange.

When Rolls The Oregon.

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One Interesting feature of the bee business in Massachuetts is the use of bees in the greenhouses where cucumbers are produced. Their work on the blossoms "sets the crop." It is estimated that considerably more than 1,000 colonies of bees are used for this purpose in a year. As the bees can secure very little nectar from cucumber blossoms, the colonies become weakened and either die or become a prey to moths.

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Farmers of the San Joaquin Valley are between the deep blue sea and the other fellow in the law which controls poisoning of ground squirrels, and the state game and fish commission which warns them that they must not at the same time poison other game.

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### YOUR CHILDREN'S EDUCATION.

It is always a puzzling question as to how much education a boy or girl can take that is the best kind, and where to secure it. Psychology teaches us that the mind is moulded along diversified lines and that no two minds have the same receptive power, nor the power of grasping the same thing with equal force. Some minds grasp art, others music, but the large majority can readily grasp the principles of commercial practice.

Perhaps you want your boy to be a farmer and follow in your furrow. Perhaps you want him to enter the professions, or possibly you want him to enter business. Whatever course you choose for your son or daughter the essentials of business must be grasped before real success can be made.

The world is struggling too hard for the weak men and women to reach the top. Education is the deciding factor in the measure of strength, which is the measure of ability. As one is better fitted to do things that are needed to be done, just that much surer is that one of making a success in life.

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| ¾ in. | 3¼ cts. | ¾ in. | 1½ cts. |
| 1 in. | 4¾ cts. | 1 in. | 3 cts. |
| 1¼ in. | 6½ cts. | 1¼ in. | 4 cts. |
| 1½ in. | 7¾ cts. | 1½ in. | 5 cts. |
| 2 in. | 10½ cts. | 2 in. | 6½ cts. |
| 2½ in. | 16¾ cts. | 2½ in. | 10 cts. |
| 3 in. | 22 cts. | 3 in. | 14 cts. |
| 4 in. | 31½ cts. | 4 in. | 20 cts. |
| 4½ in | 38 cts. | 4½ in. | 25 cts. |
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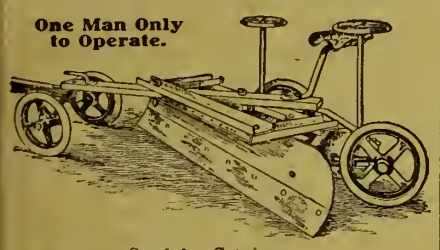

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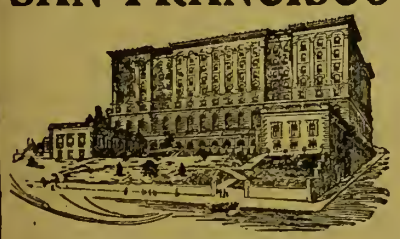

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# General Agriculture

### ALFALFA AT THE STATE FARM

THE State Farm at Davis is not only proving a factor in the education of the youth of the state, but its experimental grounds are developing some grains and grasses under the experiments directed by Prof. Shaw which may increase the wealth of the producing class so as to give vast dividends on the money invested in the land and equipment of the state farm.

Regarding the alfalfas observed by Prof. Shaw, he writes us:

We have had several types of alfalfa under trial on our experimental stations, particularly at Tulare, for several years past. Among these types are Chilean (which is the common variety grown by farmers), French, German, Turkestan, Peruvian and Arabian. There are at least three of these which offer advantages over the common or Chilean, in respect to rapidity of growth, particularly the French, Turkestan and Arabian. Our experiments, not only upon our own station but also on several experimental plantings which we have secured in many parts of the state have shown that the Arabian type is the most rapid grower of any type which we have tried. It will ordinarily make about twenty-five per cent more growth during the season than any other, except the Turkestan, and I should say about ten per cent more growth than the Turkestan. It has other features also which commend it very highly. It is more leafy; has a much larger leaf, and does not become as woody and hard in the stem as do any of the other types, and this is a great point in its favor. It recovers very rapidly after cutting and makes a considerable growth during the winter. From the first of December until the middle of February, it will make, under the conditions at Tulare, a growth of about eighteen inches, while the common, or Chilean type makes a growth of about six, or eight inches. Wherever the climatic conditions are not too severe, I consider it a much superior type of alfalfa to the common, or Chilean.

It should be remembered, however, that this alfalfa is more easily injured by heavy frost than either the common, or the Turkestan types. We have had it under trial in sections, ranging from the Imperial Valley to as far north as Stockton, and the result has been uniformly good.

The Turkestan variety is a more rapid grower in the summer than the common, and is adapted to regions where the water supply is limited, although by this I do not mean that it will thrive under extremely dry conditions. It will stand more frost than the common, or Chilean, and in general makes about ten per cent more yield.—G. W. Shaw, Berkeley.

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Alfalfa, like corn and cotton, demands certain conditions of the soil and certain constituents in that soil. Every crop demands certain foods. All crops except alfalfa and the other legumes obtain practically all their food, including nitrogen, from the soil. The latter crops use nitrogen but get it from the air. Alfalfa takes nitrogen from the soil only during the first few months of its growth, and thereafter not only takes its own necessary supply from the air, but a large surplus which it stores in the soil, available for whatever crop may follow. Other crops take much nitrogen from the soil, but contribute nothing to its enrichment.—From Coburn's "The Book of Alfalfa."

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### INDIVIDUALITY IN FARMING

Success in agricultural pursuits depends as much upon the individual in charge as does success in any other vocation. But many lose sight of this fact. They attribute the success of others to better farms, or better luck.

The successful farmer does have a better farm than his unsuccessful neighbor, but it is not the lay of the land that is responsible—though of course a man of good judgment will choose the better location. On a level stretch of prairie with only a wire fence between, one farm will improve and the other decline in productiveness and value. It is the individuality of the two farmers that accounts for the difference.

Some men are born managers. They can handle men and get the most out of them. They can work out plans to a successful conclusion. Everything they do seems to be successful. It's in the man. Luck has nothing to with it.

Some men are not born managers, but they have the gumption to profit by experience, whether their own or others. They make up by a close study of problems what they lack naturally. Others never see their lack and never try to grow in judgment and skill.

The man who is a successful farm manager is apt to be a leader in the community. You find him conspicuous at the institute and grange. He has his say at the school meeting and everywhere. Some dislike him for this. But say, how much stock do men take in the advice or leadership of the unsuccessful man?

Fortunate is any community that has in its midst a few very successful men. Fortunate indeed if those men do not take advantage of their ability and override the rights of others less favored.—Successful Farming.

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### TYPHOID FLIES

Beware the fly! Already in our midst the house fly, the dirty fly, the typhoid and cholera infantum fly, has begun to swarm in thousands and millions, unless precautions are taken. The house fly, whom we were taught in our childhood to treat with kindness, has been exposed. Its habits are filthy. It breeds in stables and garbage pails and carries the filth it revels in and tracks it across the sugar, the butter and the beefsteak. It paddles its horrid feet, gummed with the vilest rotting matter, in the baby's milk. The doctors have declared war on the house fly. It probably disseminates every disease. It is a nuisance. It must be exterminated. It can be driven out of every city. In an age of knowledge, screens and cheap disinfectants there is no excuse for flies in any household. Clean up your premises and report to the health department your neighbor who does not. Get rid of breeding places of flies and you will get rid of flies.

There is no family so poor it cannot afford to screen its home. Screens will turn away all flies as well as mosquitoes. The unscreened house, in other words, is a dangerous thing, and screens on windows and outside doors are an excellent investment from several points of view.


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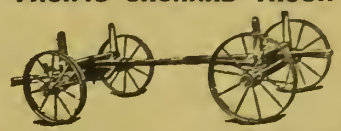

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# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Garget.

My cow has just calved and has developed a small hard lump which stays against the end of the teat unless squeezed, and partly prevents the milk from coming out. We put the calf on that teat but it did not seem to help matters. The lump does not seem to hurt unless squeezed tight, but cannot be forced out.—A. K. S., Imperial.

The trouble is garget. Handle the quarter carefully so as not to make it inflame any more. Fomenting with hot water will help it even now. I would at the first have given her a good big dose of Epsom salts, a pound at least with a tablespoonful of ginger added to it. This might not be amiss even now if the udder is inflamed at all. Milk as carefully as possible and try rather to keep the trouble from increasing. The udder excepting the affected quarter should be milked out clean, then the calf will milk out the affected quarter. It helps the cow, but is rather hard on the little calf to be made to take in all this bad milk. A milking tube can be used to draw off the milk, but must be used with care so that the udder is not infected with foreign matter. Sterlize by baking it in an oven and then putting it carefully into a bottle of carbolated vaseline, handling by the ring end and never touching that part that enters the teat.

These troubles often pass away when the cow freshen next time, so that it may be best to let the affected quarter go dry until she comes in again.—M. E. S.

### Pasture Amongst Eucalyptus Trees.

If a pasture is planted to eucalyptus trees twenty to thirty feet apart, can hay be raised on the same ground until the trees are large enough to cut? Would rye grass thrive or would these crops retard growth of the trees? At what age should trees be cut first?—Subscriber, Sebastopol.

If the trees were planted as far apart as you suggest, the pasture might be of value for the first two or three years. Ultimately it would be affected by the shade of the trees, and we do not believe would be as profitable as it would be to devote the entire field to the one purpose and plant more thickly to trees. The rainfall in this state is too light even in Sonoma county. The trees could be planted six or eight feet apart and then the poor or slow growing ones removed at the end of two or three years, and the remainder, if still too thick, further reduced by cutting for poles. The age for cutting depends upon soil, amount of rain fall, and to a certain extent on the amount of culture for the first two or three years, and especially upon the use to which the timber is to be put. If the trees are planted more thickly, you will secure straighter timber of greater commercial value. If planted thirty feet apart, the trees will have a tendency to branch.

### Nitro-Culture.

Will the use of nitro-culture accomplish what the advertisers claim in increasing the crop yield, i. e., two to ten times?—L. F., Sebastopol, Cal.

The benefit from the use of nitro-culture depends entirely upon conditions. For instance, if you were planting peas in a field where peas had previously been grown, the soil would doubtless be sufficiently supplied with the bacteria beneficial to the crop so that the addition would be of no advantage whatever. If, however, they were to be planted on virgin land, or on land which had been planted to other crops, the use of the bacteria would very probably be of benefit. Whether it would ever increase the profit ten times, we would very much doubt, but if it simply doubles the crop or increases it by a slight percentage, the small expense of treating the seed would be more than covered. This may be done by the cultures offered by certain seed houses or by securing them from the department of agriculture, or, as is often done, by taking soil from fields which heretofore have successful crops of the same kind. Bear in mind that the particular bacteria which are beneficial to peas might not be of any benefit to alfalfa, though both are legumes.

### Yellow Jackets.

I am sending you my remedy for the yellow jacket pest. It is very simple, safe and effective. Make a syrup of sugar and water, boiling a little fruit of some kind in it for the flavor. Prunes are very good and the yellow packets like them. Fill wide mouth bottles from one-half to one-third full of this syrup and place them where the yellow jackets are most troublesome. They will leave the fruit for the syrup and hundreds of them will become meshed in it, and can then be scalded.—Mrs. P. Knolloch, Smith Creek.

On the deciduous page of this week's issue will be seen another communication regarding yellow jackets, with description of remedy.

### Castor Beans.

What time of the year should castor beans be planted? Will you please give information as to planting for commercial purposes? In the August number of the Technical World, there is an interesting article on castor beans. I will much appreciate any further information.—R. T. Clyde, El Monte.

We have noted the article in question and also some comment which it has occasioned. It is somewhat at fault in not locating the hero of the castor bean story so that we can get further information as to where the beans were marketed. At one time a mill was started in Southern California, and while there was no cost for securing the beans other than for gathering them on wild land, the mill could not even pay enough to encourage picking, so it soon ceased to operate. Where the beans may be forwarded to market we are unable to say, and until a market is assured, the prospective planter should be very slow in making a start in castor bean culture. As we do not know of their having been planted except for ornamental purposes, we have never heard of any established rule of procedure, unless that given in the "Technical World" is correct. If we were to plant them, we would do so in April or May, and we would, under no circumstances, plant, as recommended in the magazine in question, in the Colorado desert section where the rainfall may be less than one inch. There are many points in this article which make it look as if its author were writing of an imaginary venture.

### Peaches Not Bearing.

I have an orchard of four year old trees, large, well formed and healthy, which bear only a scattering crop. Next year I wish to get more of a crop. What time of the year does the tree set its fruit buds? Would it be better to do part of the pruning right after the picking of the fruit so as to give the rest of the tree more strength to set buds? A few of the trees this year were affected with curl leaf, and these are more heavily loaded than those which were not. The pruning has been done under the directions of an old orchardist.—A. K., Kerman.

It is possible that the failure of your trees to bear is because of the inherent nature of the tree. You do not say what variety of peach you are growing. Again, the trouble may


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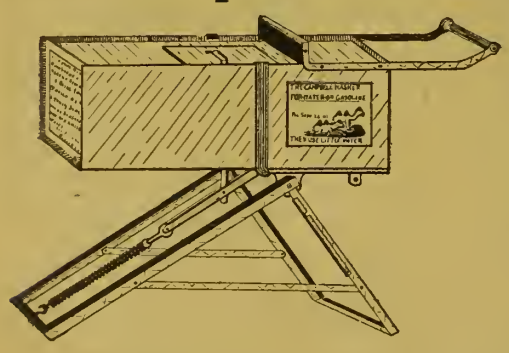

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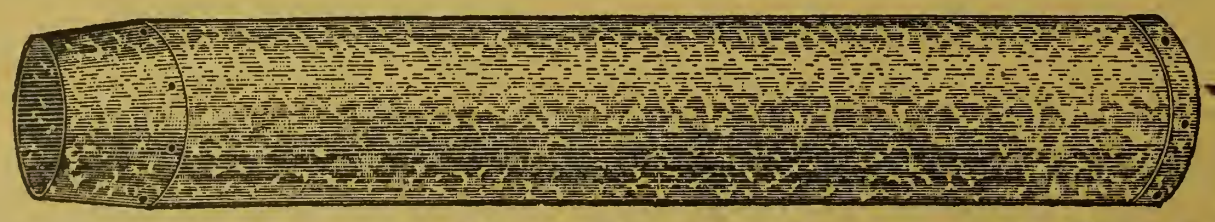

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be with soil conditions, though from the tone of your letter we take it there is abundant summer growth. It is barely possible, as you suggest, that summer pruning would be of value. At least, we should experiment along that line. The majority of the trees we should not cut back heavily, but by checking the outer growth more sap would be thrown to the fruit spurs thus inducing the formation of more fruit buds. The fruit spurs form on wood of this year's growth. We would not cut back to the extent of this year's growth, but only a small part of it. It is very probable that the trees you speak of having been more seriously affected by curl leaf are of a different variety from those which bear so lightly, and this fact may account for the difference in their crops.

### Fertilizer For Gravelly Soil.

After reading the article in your issue of July 15th, under the heading of "The Handling of Intractable Soils," I am impelled to ask you for suggestions as to the best methods of handling light, sandy and gravelly soil, set to oranges. This soil varies in depth from twelve inches to thirty-six inches and is underlaid with "wash" gravel, rock and clean sand, into which the roots do not penetrate.

My own conclusions are that all the vegetable matter which can be worked into the soil, should be put into it, to make it more retentive of moisture and to induce lateral percolation of water when irrigating. I use barnyard manure and barley straw. I also use shallow furrows to assist lateral percolation and cultivate not deeper than about four inches.

I have not used cover crops during the two years I have owned this place, believing that straw would give quicker results in improving the mechanical condition of the soil, and that when this result is obtained to a degree, cover crops could probably be grown to better advantage.—W. N. Glasscock, Rialto.

Your method is correct unless it be in the matter of adding straw. It appears to us that the application of straw to gravelly soil would make it very hard to retain moisture. If put on in the fall and given sufficient rainfall during the winter, it is possible it would decay and be in good condition for the coming summer, but otherwise excepting as a mulch on top of the ground, we should much prefer to keep it out of such soils. The green manure crop would be preferable and we should apply superphosphates or some commercial fertilizer to stimulate as heavy a growth of the green crop as possible. If straw is to be used, we should surely run it through the stable and throw it in the compost heap and at least let it partially decay before putting it into the soil. Of course the need of such a soil is the addition of humus and every possible method should be used to increase the humus content. Unless there is an abundance of humus, the moisture goes through the soil to the coarse gravel below and the little retained soon evaporates. Humus is your salvation.

### More Pruning.

Will it hurt peach trees to prune them during the summer? They do not bear fruit yet.—A. W., Parlier.

See answer to A. K. in this issue. You do not state how old your trees are. If young, we would prune very carefully in the summer. Older trees may be cut back at the tips, but we would not give a young peach heavy pruning.

### Bermuda Pasture.

I noticed a reference to Bermuda grass in one of your articles in the Cultivator. I have some alkali soil that is sub-irrigated from a ditch. Have been experimenting and have succeeded in getting bermuda to grow in some spots. I have found that large sods live where small ones will not, that it will grow in some places without irrigation, or when standing for several days in alkali water, while in other places it quickly dies out. I should like to put a large field in bermuda for permanent pasture. Any information you can give me about how, when, and how deep to plant it will be thankfully received.—J. C., Hanford

We secured twelve years ago a complete stand of bermuda grass on a meadow too wet to grow anything else. This field today is a good one and carries a large amount of stock at all times. We plowed and harrowed it as for corn, or about five or six inches deep, then made shallow furrows about two feet apart and about two inches deep, dropping the cut up bermuda into these furrows and covering at once with the plow. After a month's time the field was given surface irrigation. In two months it was green all over, though showing greater density of green down the furrows. The next season the rows had disappeared completely, and ever since the field has been a completely covered mat of sod. The cuttings should be sown as quickly as possible and kept moist until covered with the earth. We got better results in this way than in making a lawn where great care was exercised, and sods carefully cut were laid down and kept well watered. The sod died in the centers and grew on the edges, leaving a piece of dry dead stuff to be removed from each sod. The joints seem to run out and root better than the older established roots themselves. In taking bermuda out of a vineyard we do not consider the old roots of as much importance as these runners in spreading it under the vines. In the alkali spots, if a little sand is put into the furrows or under the sod until the roots have a chance to form, they usually will take hold. The mischief that alkali does is that it burns the first growth. I have gathered stems of bermuda that were encrusted with alkali for several inches while the top of the shoot was green and healthy. Any spot that proves too strong may be started by putting on a little land plaster to neutralize the acrid surface. I would also secure some salt bush and mix that in with the bermuda. This grows wild in some of the bermuda country, having escaped from the cultivated fields. If you do not know the plant, some of the neighbors may possibly show it to you. I hve seen it growing around Tulare City, on the roadside, and in waste places. The salt grass found in the river country is worth growing for meadows. On the best portions of the field brush in a little alfalfa seed. This mixed up meadow feed will satisfy the appetite of cattle better than only one grass. The amount of stock that a well set bermuda field will carry is amazing and the grass keeps on growing. Let it rest for a couple of weeks and it is again ready to furnish feed. The worst side of bermuda is the ease with which it takes possession of the cultivated lands and the expense attending its removal. When the horses are turned out on bermuda pasture and then caught up to work, if great care is not used, they carry the joints of grass in their feet and finally plant it in the cultivated soil. Bermuda likes a loose cultivated soil and is very slow in spreading on uncultivated land, while it will travel by its long runners over plowed ground for long distances in one summer. As a grass it is a summer grower and does not furnish much winter feed. The stock, particularly horses, will eat it down to the roots in the winter and may be able to spoil the next season's grazing by being kept on it too long.—M. E. S.

### Smoking Out Squirrels.

I am having a great deal of trouble with squirrels. Please give me particulars about how to use the smoker, where I can get it and what is the price. Have you experience in destroying gophers?—F. G., San Jose.

Yes. Squirrels are thrifty enough to soon discover the land that has no smoker on it affords better food for them. I would try to interest the neighbors in a squirrel raid if possible. However I have for years sent my men on the adjoining places and smoked the squirrels whenever the runs were near enough for the squirrels to be feeding on my crops I have never had any one object to this proceeding on our part. The smoker does better work in the winter time when the ground is moist enough to retain the smoke well. The smoker is merely a tin pump made with a spout and handles. The smoke is forced into the open holes and rises out of any that are connected by a runway. These are each stopped in turn and then the machine is worked rapidly until the hole will not take in any more smoke. The spout is quickly withdrawn and the hole stopped up. A small stick with a white flag made of a strip of muslin is placed at the side of the hole to mark it so that in the next round it may be examined to see if the squirrels have opened it up again. It is strenuous work pumping in the smoke and a good man must do the work or it is useless. The dead bodies of the squirrels in the holes seem to make it unpleasant afterwards, so that outside squirrels do not dig into the old runways.

The gophers on the ranch that escape the cocker spaniels are drowned out.—M. E. S.


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Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

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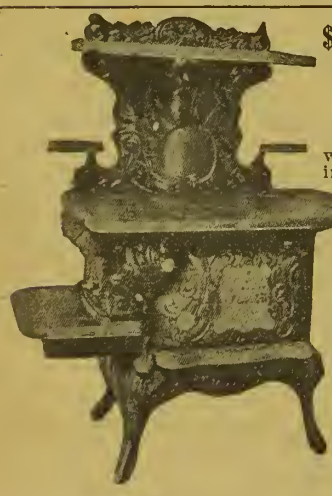

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# Household Department

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The town of "Used-to-be,"
Where streets are "turnpikes," and people are "folks,"
And a nice hot supper a "tea."

"Where is the town of 'Used-to-be?'"
In grandma's memory bright,
"The way?" Upstairs, to grandma's room
(The cosy one to the right).

"When can you go there?" Twilight's best,
For the gleamy glow in the grate
Lights the way to the town of "Used-to-be,"
And nobody need to wait.

Then ho, for an hour in the dear old town,
And hey, for the husking-bee,
And oh, the dancing in stiff brocade,
And ah! the trysting-tree.

And ugh, the sermons, two hours long,
And three of them, Sabbath day,
In a "meeting house," so cold and drear,
Where the "foot stove" held its sway.

But if grandma shows you a summer scene,
In a farm house and orchard fair,
With rows of cheeses on dairy shelves,
And bees in the clover-sweet air,

And there beyond, in the kitchen wide,
Grandma, herself, at the wheel,
Spinning, singing, a fair young bride
You say, for you can but feel—
"What a dear, dear town of 'Used-to-be!'"
But grandma's voice drops low,
And she says, with a half-sad, half-sweet smile:
"'Twas all so long ago."

—Boston Transcript.

## ETHEL'S ODD WAYS CAUSE HOURS OF WORRY.

"DEAR me!" said Ethel's mother as she paused in passing that young woman's open door. "What have you got your pink dress out for? You aren't going anywhere tonight."

"I—I'm fixing it," said Ethel, hurriedly. "The lace is ripped."

"Oh," said her mother, in surprised gratification. Perhaps, after all, Ethel was going to prove self-helpful and careful. That young person at the moment was answering a telephone call.

"I'm awfully sorry, Mabel," she was saying, "but I can't come. It's so kind of you to ask me. Yes, I have another engagement for tonight."

"Why, I thought you weren't going anywhere!" her mother called in surprise.

Ethel frowned. Sometimes one's family was very trying.

"I'm not," she said. "But I didn't care to go to Mabel's and I had to tell her something because she hangs on forever. Besides, it wasn't exactly a fib. There's lots of time to make a dozen engagements before this evening. I believe I'll run around the corner and get a manicure."

"You can do it nicely yourself," said her mother.

"They do it better at the shop," said Ethel carelessly.

When she came back an hour and a half later and removed her hat she discovered a well-dressed head freshly waved and puffed.

"I thought that as I was there I might as well have my hair looked after," she explained to her mother. "I believe in taking care of one's hair."

"I didn't know having it curled was exactly an incentive to its growth," said her mother. "It seems to me you're wasting a lot of time on yourself today just for the family's benefit. If you aren't going out and nobody is coming—"

"I'm surprised at you, mother!" said Ethel severely. "I hope I'm just as careful of my appearance before my relatives as before strangers. You've always preached that at me and now—"

"Yes, I know," said her mother, apologetically. "By the way, we might go over to Cousin Anna's this evening."

"We-e-el," said Ethel, protestingly. Then she turned reproachful eyes on her parent. "You know father doesn't enjoy going there, and really, mother, I don't think it would be right for us to leave him all alone at home for a whole evening."

"I never knew you to be so thoughtful before," said her mother in self-defense. "If you'll remember, you literally dragged me out to that church concert last week—the night Mr. Grassmere brought us home."

"You ought to get out more," said her daughter. "I'm sure it was a very enjoyable evening—program, I mean."

When she came down to dinner Ethel had on the pink dress. "I thought that as I had it out I might as well wear it," she explained. "Besides, it won't be any good when summer comes."

"Gee!" said Ethel's small brother. "You're fixed up to beat the band aren't you? Hair curled and everything! I bet your fellow's coming!"

"Tommy," said Ethel with sad patience, "the way you use common slang is something dreadful! If you only knew—"

"Is he?" persisted Tommy maliciously.

"Is who what?" demanded his sister in an irritated tone. "It does seem to me that I might have a little consideration shown me by members of my own family! Mother—"

"Tommy, eat your dinner," said her mother. "Ethel, you are unduly sensitive."

"I've got to go back to the office tonight," said Ethel's father, "and work on that case again."

"Then Ethel and I can go to Cousin Anna's," said her mother.

"My head aches a little," said her daughter, pensively. "I don't believe I feel like going this evening."

"Gee!" said Tommy ten minutes later. "Whatchu turning down all the bright lights in here for? You can't see a thing with all those pink shades on and everything?"

"You'd better take your book into the den," said Ethel soothingly. "It's lots more comfortable in there, really. You can curl up on the couch."

"If you didn't have that dress on," said her mother, "we could go through those trunks with the summer things packed in them this evening. What are you going to do?"

"Oh, I don't know," said her daughter, who was wandering around the rooms restlessly. She stopped before a mirror and surveyed herself. "Do you like my hair this way as well as the other?" she asked, intently.

"It looks all right," said her mother. "You're so queer tonight, Ethel.

I can't seem to find anything you want to do."

There was a ring at the door and with a soft pink swish Ethel herself flew to open it.

"Why, Mr. Grassmere!" came Ethel's voice in well-modulated tones of surprise. "I'm so glad to see you!" She spoke as one who of all things on earth least expected to behold that young man.

Ethel's mother's eyes happened to light on the calendar on the library table. A great light broke. "If I didn't forget it was Friday night!" she breathed. "And he's been here every Friday night for two months! Well, that explains it."—Chicago News.

# About the House

### ESSENTIAL TO GOOD DRESSING.

To always look well-dressed on almost nothing a year, a woman must know how to keep her garments in order. Not only must one know how to do it, but it must be done promptly. There is no other way. If you think, "I'll let this go for a day or two, and have a great renovating seance some time in the future," you'll look shabby and untidy most of the time.

A black silk dress is quite indispensable to women who must dress economically. This does not sound economical at all, but it really is. I know from experience. I saved pennies, and looked like a tramp, until I had achieved a black silk gown, and I've never regretted it. I purchased a good piece, and it has stood so much hard wear that if I were to tell about it, most of you wouldn't believe me! I had it made very plainly, and in a style that was most becoming; then I wore it for ages without remarking it. You can do that if your dress is becoming and not in any pronounced style. But black silk, even of the best quality, soon becomes old-looking if not properly cared for. It should never be brushed, and it should never be hung away with the least bit of dust on it. Yet it shows dust so quickly that one is always tempted to use a brush. Instead, the dust should be carefully wiped off with a flannel cloth. A black silk gown can be worn on so many and on such varied occasions, that one who has such a gown need never fear that she has nothing to wear. After I had achieved my black silk, I worked for a cream wool gown, and these two gowns, with cheap dimities, ginghams and percales made me a well dressed woman in our neighborhood for five years. I had a dimity evening gown that cost me five cents a yard, and was one of the most effective gowns I ever had.

Mud stains can usually be removed from silk of any color by rubbing with a piece of flannel. But if too obdurate, try a bit of linen moistened with alcohol.

To renovate crepe, brush it free from dust, then wet with alcohol and roll it over a long round stick, keeping a piece of paper between each fold of crepe. Fasten it with a pin, and stand it away until it is perfectly dry, being careful that it does not rest aginst anything for it easily becomes flattened when damp. Let the top of the stick rest against the wall, but not any portion of the crepe. I have renovated the crepe-finish goods used for gowns, in this way, when I wished to make them over. If not badly soiled, crepe can be cleaned by holding it over steam, then winding it over a stick.

Black lace is easily made to look like new by dipping it into whisky. If it has an edge, pin it out so that all the points are in perfect shape. If you are careful, you can make one set of lace trim several gowns.

Chiffon should never be ironed; but it may be pressed with a heavy iron if placed between several thicknesses of sheeting. When washed, it should never be rubbed. Let it soak until clean in weak suds of white soap, if very dirty. Stir it around, occasionally, but do not rub or wring it. Rinse it by changing the water until you are sure all the soap has been removed, then take it out and hold it up in the air, allowing it to drip as long as it will. It is then ready to press. I have a friend who folds hers until it is as large as the bottom of a roasting-pan then she places it between folds of sheeting, puts the roasting-pan over all, and fills it with boiling water. This water is changed once or twice, and by that time the chiffon is pressed. In this way, she gets even pressure, and the advantages of heat, without using an iron.—Fruit Grower.

### HOW TO WASH SILK.

In washing silk there are four things which must be avoided, and they are soap, heat, rubbing and wringing. Have the water lukewarm. Make a lather with a little dissolved soap if the garment is dirty. If the article is not soiled much, use bran water. Don't ever allow soap in a lump to come in contact with silk. Take one end of the article and swish it around and around until it is clean. Rinse it in cold water to which vinegar has been added. Add one tablespoonful of vinegar to one quart of water. Place the garment between dry cloths and squeze, preferably between a wringer. Then shake well to get rid of all superfluous moisture and iron at once through tissue paper with a warm iron.


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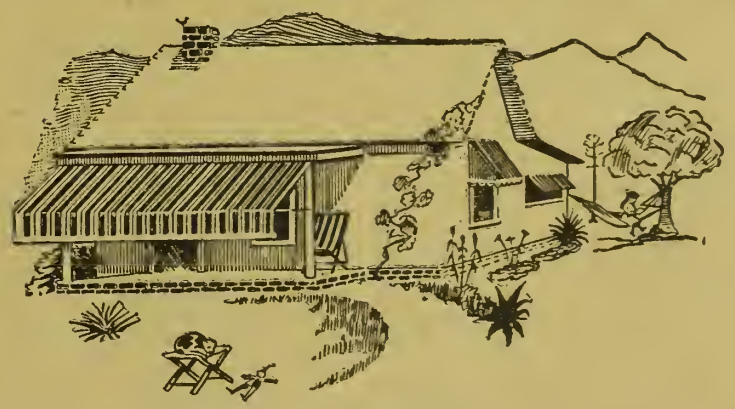

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NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.

GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

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# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, July 28, 1909.

### Butter.

Butter shows no interesting features in the market and holds exactly the same quotations as last week.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

Creamery per roll .....55@60
Cooking .....23¾

### Cheese.

Southern California Anchor .....19
Northern fresh .....17½
Anchor Young America .....20
Domestic Swiss .....20
Imported Swiss .....80

### Eggs and Poultry.

Eggs show a two cent advance on both case count and selected candled. Market is firm.

Paying price f. o. b. L. A. are:
Eggs .....32@34
Case count buying price .....29

Dealers pay for live poultry f. o. b. L. A.:
Hens per pound 3½ up .....12@14
Stags and old roosters .....8
Fryers 2 to 2¾ lbs .....17
Broilers 1¼ to 2 lbs .....18
Broilers 2 lb .....19
Roasters 3 lbs and up.....17
Turkeys .....23
Geese .....12
Ducks .....12@13
Squabs .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds.....7½
Prime steers .....4@4¼
Heifers .....3½@3¾
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.25@3.50
Wethers .....4.50@5.00

### Potatoes.

Wholesale prices are:
New sweets per lb .....4@6
Early Rose local .....1.50
Burbank local .....1.35
Highlands .....1.50

### Onions.

Wholesale quotations:
Coachellas sacks .....1.35
Silverskins, local .....75@1.00
Northern Yellow Danvers .....1.50

### Vegetables.

Artichokes locals .....60@75
Asparagus .....3@6
Beets per sk .....90
Beans string .....2
Bell peppers .....12
Cabbages per sack .....60@75
Celery per doz .....75@85
Chili per lb .....25
Chili dried .....9@10
Cucumbers per box .....15@25
Cauliflower per crate .....1.25
Carrots per sk .....90
Corn per sk .....1.50
Egg plant per box .....40@50
Green onions per doz bunches ..15@20
Summer squash per box .....35
Lettuce choice .....75@1.00
Oyster plant .....50
Peas per lb .....4@5
Parsley doz .....20@25
Parsnips .....15@20
Rhubarb Northern per box ..1.75@2.00
Rhubarb Crimson Winter per lb ..3@5
Radishes per doz .....15@20
Spinach per doz .....15@20
Turnips sk .....90
Tomatoes crate .....30

### Citrus Fruits.

Valencias .....2.50@2.75
Grapefruit .....2.00@3.00
Lemons .....2.50@5.00
Unpacked .....1.00@1.35

### Fresh Fruits.

Wholesale prices on the market are:
Apricots per crate .....35@50
New apples .....50
White Astrachan .....2.00
Red Astrachan .....1.25
Alexanders .....1.50
Casabas per crate .....2.00
Cherries per lb .....2@5
Currants .....60
Figs .....60@75
Grapes 4 basket crate .....75@1.25
Gooseberries .....10
Loganberries .....3
Loquats per lb .....3
Peaches box .....65@1.00
Pears per lb .....3½
Plums .....50@1.00
Prunes .....50@1.00
Raspberries .....4@5
Blackberries .....3@4
Strawberries .....3@4
Watermelons per doz .....75@1.50

### CANTALOUPES.

Cantaloupes ponies .....1.00
Standards .....1.25
Jumbos .....2.50@3.00

### Dried Fruits.

Wholesale prices are:
Apricots .....8@9
Evap apples fy per lb .....10@11
Figs loose .....5
Peaches .....5@6
Pears .....9
Plums pitted .....8@9
Nectarines .....7½@9
Prunes .....7@8

RAISINS—Muscatels, 2-crown, loose, 50-lb. boxes, lb., 3½c; do., 3-crown, 4c; do., 4-crown 5c; sultanas, bleached, lb., 9c; do., unbleached, 3½@4c; new seeded raisins, 16-oz. packages, 6c; do., 12-oz. packages, 5c.

### Beans Dried.

Wholesale prices are:
Pink No. 1 .....3.65@3.75
Limas per ctl .....4.50
Black eyes .....3.50
Lady Washington .....5.50@5.75
Small White .....6.50@6.75
Garvanzas .....4.00@4.50

### Nuts.

Almonds IXL per lb .....15
Pecans polished .....15@17
Peanuts California .....5
Walnuts No. 1 .....12@13
Walnuts No. 2 .....9@10

### Honey.

Wholesale quotations:
Extracted water white .....7
Extracted Light Amber .....5½@6
Comb Water White .....15
Comb white .....14
Beeswax .....25

### Hay.

Prices paid to producers f. o. b. Los Angeles are as follows:
New Barley hay .....8.50@13.00
New alfalfa local .....12.00@12.50
New alfalfa Imperial .....10.50@11.50
Wheat hay .....13.50
Tame oat .....14.00@15.00

### Grains.

Wholesale selling price f. o. b., Los Angeles:
Wheat new per ctl .....2.25@2.30
Kaffir corn .....2.00
Corn Eastern bulk .....1.95
Egyptain corn .....1.85
White oats .....2.25
Seed Rye .....2.00

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn .....2.00
Shorts .....1.95
Bran .....1.70
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....2.50
Feed meal .....2.05
Cracked wheat .....2.50
Rolled Barley .....1.55

## San Francisco Markets

SAN FRANCISCO, July 27, 1909.

### Butter.

Butter advanced a half cent after last quotations then dropped on Saturday to exactly the same as last week where it remains with firm market.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:
California extras per lb .....27½
California firsts .....27
California seconds .....25½
Packing .....23½

### Cheese.

California flats .....13½@15½
Cal Young America fy .....14½@15½
Young American Oregon fy.....16

### Eggs and Poultry.

With plentiful supply of eggs a 2 cent advance is noted. Market is firm with general good tone.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:
Fresh ranch .....23@33
Hens per doz .....4.50@9.00
Roosters .....4.50@9.00
Fryers per doz .....5.00@6.50
Broilers .....2.50@4.00
Geese per pair .....1.50@2.00
Ducks young .....5.00@8.00
Pigeons young .....1.00@2.00

### Live Stock.

San Francisco prices gross weight:
Steers .....3@4⅛
Cows and heifers .....2@3⅛
Hogs .....4@7½
Calves per lb .....3½@5
Milk lambs .....5¼
Wethers No 1 .....4@4⅛
Ewes No. 1 .....3½@3⅝

### Potatoes.

Wholesale market quotations:
New crop .....75@90
Sweets crates per lb .....4

### Vegetables.

Wholesale quotations:
Asparagus per box .....50@1.00
Bell peppers per box .....50@65
Brussels sprouts per lb .....3@5
Cabbage per box .....2.00@2.25
Cauliflower doz .....75@1.00
Carrots per sk .....65@75
Cucumbers per box .....25@50
Pickle cucumbers box .....60@1.00
Chili peppers per box .....50@65
Corn per sk .....75@1.25
Egg plant per box .....1.00@1.25
Beans limas .....4@5
Green peas per sk .....1.00@1.25
Okra box .....1.00@1.25
Onions green per box .....50@60
Rhubarb per box for bay ....1.25@1.50
Squash per box .....25@40
String beans .....2@3½
Tomatoes Cal .....15@30
Wax Beans .....1½@5

### Onions.

New red per sk .....35
Yellow .....80@90

### Citrus Fruits.

Valencias .....2.50@3.25
Grapefruit .....1.50@3.00
Lemons .....2.00@5.00
Limes .....5.50@6.00

### Fresh Fruits.

Apricots box .....40@50
Apples new green .....75@1.50
Crab apples .....40@75
Cherries loose black per box ....50@65
Figs blk box .....1.00@1.25
Grapes Sweetwater lug .....1.50
Grapes seedless .....85@1.00
Malagas .....75@1.00
Rose of Peru .....75@85
Huckleberries per lb .....15
Logans per chest .....1.50@4.00
Nectarines crate white .....50@65
Nectarines red .....50@75
Malindas per chest .....2.00@3.00
Cherry plums per box .....25@35
Peaches freestone per lug box ..50@75
Peaches per lug box clings.....60@75
Plums boxes .....25@50
Plums Tragedy crates .....75@90
Pears Bartletts .....50@1.10
Longworth per chest .....3.00@5.00
Nutmeg standards .....50@1.25
Nutmeg melons ponies .....50@1.00
Nutmegs Rivers .....65@75
Pineapples per doz .....3.00@6.00
Pears box .....60@1.50
Blackberries per chest .....1.50@3.00
Huckleberries per lb .....12½@15
Raspberries per chest .....4.00@8.00
Watermelons per doz .....1.50@4.00

### Dried Fruits.

Prunes 4-size basis .....2½
Santa Clara .....2¾
½c premium for larger sizes
Apricots per lb .....8¼@10
Peaches—Choice ...4; Fancy ...6@7½
Apples evap .....5@7½
Pears .....5@8½
Figs .....2½@4
Nectarines .....5@6
Pitted Plums .....7@8

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do, No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12. 3⅜c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached. 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

Walnuts soft shell .....9½
Hard shell .....6@8½
Ne Plus Ultra .....12
Almonds Nonp .....11½
Pecans .....15@17
Chestnuts .....2@10
Peanuts .....5@6
Pine nuts .....22½@25

### Beans Dried.

Limas .....4.20@4.25
Pink .....2.75@2.85
Small white .....6.25@6.50
Large white .....5.00@5.25
Black eyes .....3.35@3.50
Red kidneys .....3.60@3.70
Garvanzas .....2.75@3.00
Bayo .....4.75@5.00
Horse beans .....2.00

### Hops.

Hops 1908 crop .....8@11
Old crop .....3@7
1909 crop contracted for at ....15@17

### Honey.

White comb .....14@15
Light Amber .....10@12
Extracted W W .....7@8
Extracted light amber .....6@7½
Beeswax per lb .....24@28

### Hay.

Extreme prices for hay which have prevailed in Portland and other northern points tend to give a very strong tone on the local market.

Scott & Magner say: Arrivals for the week have been 4400 tons, which is quite an increase over last week's arrivals. Prices for the week have continued along in about the same condition that they have been in, except that there is an additional feeling of weakness, and on some days sales were made at lower figures to effect the movement of the hay from the cars. The consumers generally are not buying their hay for winter use, as it is apparently impossible to bring them to feel that prices demanded are justified in any way by conditions in the country and the quantity of hay that has been harvested.

A few cars of fancy wheat hay have been sold this week for retail purposes at prices above our topmost quotations, but the majority of the wheat and wheat and oat hay that has been arriving has been selling from $14.50 to $16.50 per ton. There is more tame oat hay coming into the market now, but this type of hay does not move off as well as could be wished, as the high prices limit the sale to a large extent.

There has not been much alfalfa hay coming in, although there has been plenty to supply the current demand, and the market on this article has remained about as last quoted.

We quote the general range of prices on today's market as follows:

This week's quotations are:
Choice wheat hay .....17.50@18.50
No 1 wheat or wheat & oat 16.00@17.00
No 2 wheat or wheat & oat 14.00@15.50
Choice tame oat .....16.50@17.50
Other tame oat .....13.00@14.50
New crop wild .....12.00@15.00
Stock hay .....8.50@10.00
Alfalfa .....10.00@14.00
Straw .....60@75

### Grains.

Wheat No 1 .....2.02½@2.07½
Barley .....1.40@1.45
Oats white .....1.90@2.15
Oats gray .....2.00@2.10
Rye new crop .....1.40@1.45
Corn Egyptain .....1.60@1.65
Corn Cal sm round .....1.80@1.90
Alfalfa seed, Cal .....16@18
Mustard brown .....3¾@4½
Millet .....2½@3
Flaxseed .....4
Broom corn seed per ton .....23.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton .....39.00@40.00
Cracked corn per ton .....40.00@41.00
Rolled barley per ton .....31.00@32.00
Rolled oats per ton .....40.00@41.00
Oil cake meal per ton .....38.50@40.00
Cocoanut cake per ton .....25.00@26.00
Middlings .....36.00@37.50
Mixed feed per ton .....26.00@30.00
Shorts .....31.50@33.00

## Deciduous Market

SACRAMENTO, July 24, 1909.

Yesterday's sales of California citrus fruits in the East aggregated 82 cars. Chicago took the greatest number of these which was 17. Other cities took from 3 to 13 cars. The prices realized ranged as follows:

Chicago—Bartletts, $1.95; Wicksons, $1.20; Tragedies, $1.15; Washingtons, 90c; Germans, $1.02.

Boston—Bartletts, $2.05; Wicksons, $1.65; Tragedies, $1.45; California Reds, $1.30; Deckers, $1.05; Crawfords, 80c to $1; St. Johns, 80c to 90c.

New York—Deckers, 1.05; Wicksons, $1.37; Tragedies, $1.37; Bartletts, $2.50; Crawfords, 90c.

Philadelphia—Duane, 1.40; Bradshaws, $1.35; Bartletts, $1.80; Washingtons, $1.30; Wicksons, $1.65.

Minneapolis showed only fairly satisfactory returns, Burbank plums $1.20; Sugar prunes $1.20 to $1.25; Tragedys $1.35; Satsumas $1.40; Bartlett pears an average of $2.00.

Pittsburg handled three cars, Bartletts commanding an average of $2.15; Wickson plums an average of $1.65; peaches an average of 85 cents with market showing an upward tendency.

## Citrus Market

LOS ANGELES, July 28, 1909.

Seedlings, sweets, Mikes and other than Valencia oranges are now practically out of the way, and it is well for they hardly commanded sufficient price to cover cost of picking, packing and freight. Valencias of regular sizes and first class fruit are commanding very satisfactory returns. Some off quality fruit is commanding but little better prices than the seedlings. With severe culling it is probable the remainder of the fruit may be disposed of at satisfactory prices.

The lemon situation is anything but satisfactory. There are at this time 214,000 boxes of foreigns afloat. At same date last year there were afloat only about 155,000 boxes. Yesterday's sales in New York aggregated over 30,000 boxes and 70,000 are in hand yet to sell. California is forwarding about 40 cars per day, and unfortunately some of it is not of the highest grade and these in competition with the foreigns, which this year are showing up exceptionally well, make a situation which only some extremely warm weather over the east can correct. Prices have been shaded within the past few days at least a dollar per box.

### Shipments.

Total shipments to date this season, 33,861 cars of citrus fruit, of which 28,729 were oranegs, 5,219 lemons. To same date last season, 26,903 cars of which 23,001 were oranges and 3,902 lemons.

NEW YORK, July 26.—Seventeen cars oranges, two part cars and one car lemons sold. Market unchanged on oranges, steady on lemons. Weather clear and favorable.

| VALENCIAS— | Average. |
|---|---|
| Premium, Benchley Ft Co | 2.85 |
| Superior Benchley Ft Co | 2.55 |
| Independent Growes Ft Co | 2.55 |
| Old Mission C C Chapman | 4.85 |
| Golden Eagle C C Chapman | 2.85 |
| Albion T Strain | 2.60 |
| Cambria T Strain | 2.15 |
| Hiawatha T C C Exchange | 2.35 |
| Golden Scepter Rialto O Co | 4.10 |
| Planet S S Orange | 2.65 |
| Robusta AH ESxchange | 2.55 |
| Hobo AH Exchange | 1.90 |
| Quality ST Exchange | 2.70 |
| Security ST Exchange | 2.25 |
| Gavilan Riv Exchange | 2.20 |
| Braeside Riv Exchange | 1.85 |
| Red Globe Riv Exchange | 2.45 |
| Butterfly Covlna Exchange | 2.45 |
| Century Covina Exchange | 2.10 |
| Pico ST Exchange | 2.25 |
| El Toreador San Marino GPA | 2.05 |

ST. MICHAELS—Premium, $2.30; Blue Globe, $2.35: HALVES—Blue Gobe, $1.15. GRAPEFRUIT—Champion $2.15. HALVES—Champion $1.50; Orchard, 85c; Standard, 65c; Alta Cresta, $1.70; Robusta, $1.10. LEMONS—Independent Growers' Ft. Co., $3.10; Choice, $2.65; Orchard Run, $2.45; Stock Label, $2.10.

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PITTSBURG, July 26.—Eight cars sold. Warm weather. Market steady on obth oranges and lemons.

| VALENCIAS— | Average. |
|---|---|
| Searchlight, Sunset Ex Orange | 2.00 |
| Troubador AH Ex Prenda | 1.35 |
| Hiawatha TCC Exchange | 2.60 |
| Squirrel AH Ex Prenda | 1.90 |
| Mountain Crest San Antonio Ex | 2.10 |
| LEMONS— | |
| Cycle V C Fillmore | 1.90 |
| La Mesa Riverside Ex Riverside | 3.30 |
| Golden Riverside Ex Riverside | 2.60 |
| Dawn San Antonio Exchange | 2.40 |
| Golden Rule Riverside Ex Riv | 2.90 |

BLOODS—Squirrel, Malta, $1.85; Palm Tree $1.60.

ST. MICHAELS—Squirrel $2.00.

GRAPEFRUIT—Squirrel 90c.

MEDITERRANEAN SWEETS—Coyote, $1.35; Owl, $1.20.

SEEDLINGS—Owl, $1.10.

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ST. LOUIS, July 26.—Weather stormy. Market weak on account of weather. Seven cars sold.

| VALENCIAS— | Average. |
|---|---|
| Tulip TCC Ex Porterville | 1.30 |
| Owl OK Exchange | 2.05 |
| Volunteer San Antonio Exchange | 3.05 |
| Stock Label TCC Ex Porterville | 1.05 |
| Big R San Bernardino Ex Rialto | 2.35 |
| LEMONS— | |
| Oriole V C Fillmore | 2.00 |
| Duck San Antonio Exchange | 2.00 |
| Arab San Antonio Exchange | 2.35 |
| White Cross Limoneira Co | 2.55 |

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BOSTON, July 26.—Eleven cars sold. The weather is favorable and the market is unchanged.

| VALENCIAS— | Average. |
|---|---|
| Butterfly Covina Exchange Covina | 2.35 |
| Eagle AF Alessandro | 1.75 |
| Iris Duarte-Monrovia Ex Monrovia | 2.85 |
| Stag A-C-G Ex Glendora | 3.65 |
| Orchard National Orange Co | 3.05 |
| Mocker Spence Ft Co | 2.50 |
| Monrovia Heights | 2.15 |
| Standard | 2.05 |
| Century Covina Exchange | 1.85 |
| Yankee Doodle A F Alessandro | 1.70 |
| Vlolet Duarte-Monrovia Ex Mon | 2.35 |
| Pointer A-C-G Ex Glendora | 2.60 |
| Rose Redlands Orange Growers A | 2.60 |
| Rialto Girl Growes Ft Co | 2.15 |
| Cllmax E Peycke Co | 2.10 |
| Rialto Girl Growers' Ft Co | 2.15 |

LEMONS—Eagle, A. F. Alessandro, $2.85; Setter, Arlington Heights Exchange, Prenda, $3.10; Palm Tree, $2.95; Pet, San Antonio Exchange, $4.10; Greyhound, $3.65.

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PHILADELPHIA, July 26.—Seven cars Valencias, two sweets, one mixed, four lemons sold.

| VALENCIAS— | Average. |
|---|---|
| Ibex ST Ex Rivera | 2.70 |
| Stag ACG Ex Glendora | 3.25 |
| Hunter ACG Ex Glendora | 2.35 |
| Lake Hemet AF Ex Hemet | 2.45 |
| Rialto Girl Growers' Ft Co | 2.70 |
| Stock Label Growers' Ft Co | 1.60 |
| Mocker Spence Ft Co | 2.35 |
| Wreath Spence Ft Co | 1.85 |
| Rivera ST Ex Rivera | 2.35 |
| Pointer ACG Ex Glendora | 2.50 |
| Vista Bonita AF Ex Hemet | 3.50 |
| Mission Indian AF Ex Hemet | 2.00 |
| A-One E Peycke Co | 2.65 |
| LEMONS— | |
| Blue Jay OK Exchange | 1.65 |
| Camel QC Ex Corona | 1.10 |
| Rialto Girl | 2.20 |
| Robin Spence Ft Co | 2.30 |
| Homer QC Ex Corona | 1.40 |
| Rialto Girl Growers' Ft Co | 2.95 |
| Loma Limonerla Co | 2.35 |

SWEETS—Victory CCU $1.30; Coyote OK Ex $1.40; Owl $1.15.

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CLEVELAND, July 26.—Two cars Valencias, two seedlings, two sweets and two lemons sold. Market higher on oranges and lemons. Weather cool.

| VALENCIAS— | Average. |
|---|---|
| Echo Semi-Tropic Ex Pasadena | 2.45 |
| Homer Queen Colony Ex Corona | 2.75 |
| Arroyo Semi-Tropic Ex Pasadena | 2.35 |

LEMONS—Pet San Antonio Exchange $3.60; Greyhound, $2.95; Pico Semi-Tropic Exchange Whittier $2.50.

MEDITERRANEAN SWEETS—Heapgood, $1.35; Red Globe, $1.85; California Orange, $1.55.

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CINCINNATI, July 26.—Warm weather. Market steady. Two cars oranges and two cars lemons sold.

LEMONS—Greyhound, San Antonio Exchange $2.25; Duck $1.90; Arab $2.00; Greyhound $1.90; Duck, $1.45; Cry Baby, Flagler Fruit Co., $1.25; Bridal Veil, Limoneira Co., 2.00; White Cross, $1.75: Loma 90c.

VALENCIAS—Palm Tree Arlington Heights Prenda $2.05; Navajo $2.00; Setter $2.00; California Orange, Riverside Exchange $2.25.

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NEW YORK, July 27.—Fifteen carloads of oranges sold. The market is about steady. Weather cloudy and warm.

| VALENCIAS— | Average. |
|---|---|
| Stag ACG Ex | 3.45 |
| Pointer ACG Ex | 2.30 |
| Hunter, ACG Ex | 2.00 |
| Blue Globe Riv Ex Riverside | 2.85 |
| Red Globe Riv Ex Riverside | 2.20 |
| Cal. Orange Riv Ex | 1.70 |
| So Beauties QC Ex Corona | 2.05 |
| Serenade ST Ex | 2.15 |
| Pepita TCC Ex | 1.75 |
| Orchard National O Co | 2.50 |
| Standard National O Co | 2.05 |
| Aurora E Peycke Co | 3.55 |
| Euclid Euclid F Co | 2.65 |
| Uplander Euclid F Co | 1.95 |
| Old Mission Chapman | 4.20 |
| Golden Eagle Chapman | 2.40 |
| W Highland Cleghorn Bros | 2.45 |
| MEDITERRANEAN SWEETS— | |
| Ocean Speich & Co | 2.05 |
| State Seal J D Carpenter | 1.20 |
| Chess Queen Ely-Gilmore F Co | 1.20 |
| Blue Globe Riv Ex | 1.65 |
| Mayflower R. J. Richardson | 1.65 |
| Buena R J Richardson | 1.30 |
| Independent Growers' F Co | 1.40 |
| Stock Label Growers' F Co | 1.20 |
| W. Hihgland Growers' F Co | 1.60 |
| SEEDLINGS— | |
| Red Globe Riv Ex Riverside | 1.70 |
| Red Globe Riv Ex Riverside | 1.60 |
| La Mesa Riv Ex Riverside | 1.65 |
| Golden Riv Ex Riverside | 1.40 |
| Red Mtn Riv Ex | 1.25 |

ST. MICHAELS—Ocean $2.30; Security, $2.10; Red Globe, $2.15; Blue Globe, $2.40; Red Globe, $2.20; (Halves) Euclid $1.15.

GRAPEFRUIT—Mayflower, $1.85; Isis 1.55; (Halves) Blue Globe, $1.25; Justrite $1.15.

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BOSTON, July 27.—Nine carloads sold. Hot. Market unchanged.

| VALENCIAS— | Average. |
|---|---|
| Quail OK Ex | 2.25 |
| Rey ST Ex Fernando | 3.30 |
| Tulip TCC Ex Porterville | 1.80 |
| Tunnel ST Ex Fernando | 2.60 |
| McGregor | 2.25 |
| Puck Speich & Co | 2.30 |
| Our Popular Speich & Co | 1.80 |
| SWEETS— | |
| Sweetheart AF Ex Highgrove | 1.80 |
| Eagle | 1.60 |
| Yankee Doodle | 1.50 |
| LEMONS— | |
| Conqueror Ind F Co | 2.25 |
| Bishop Ely-Gilmore F Co | 2.25 |
| State | 2.05 |

---

Alfalfa producers at Vale, Oregon, are cleaning up $50 to $150 an acre on alfalfa seed.

## A LIVING PRICE FOR FRUIT.

(Continued from Page 102.)

are in the ring that hold the prices up to the consumer and down to the producer.

The fruit that goes there from our packing house is usually what we know will not carry for a long distance market, and are glad to sell it in block crates or in the shipper's crates at a lower cash down price. You see if you send in good fruit it comes in competition with this sort of goods. We find it is best to pack the regular commercial crate with the two or four baskets according to the size of the bunches or clusters of fruit. The market understands the regular package and will buy it in that way most readily. As to letting the grapes stand to wilt, that of course depends on the time of the year. Whenever the bunches will bend without the stems breaking, particularly the short pedicles that hold the berries to the stems, the fruit is fit to pack.

The packing of the Emperors begins anywhere about the 11th of October and lasts two weeks. Malaga packing comes next month, Sultanina (Thompson Seedless) will begin within ten days at most of the houses. It would be impossible to tell you how to pack a crate of grapes in approved commercial style. Go to the packing house and do the work for a few days, then you will have gained the knowledge necessary to do good work. I should go to the nearest commercial packers and secure a guarantee on prices of so much a crate. Here at present the companies are guaranteeing on Malagas a price of from 25 to 35 cents a crate over expenses of packing. This company will send a crew of girls out to the vineyard to pack, if it is within hauling distance of a place where they board. If there is a large enough crop to bring families to camp, the labor can be secured for both picking and packing. The name of the ranch is usually on one end of the crate and the name of the company handling the pack on the other end. Sometimes when you have not full carload lots the advantage of having the company pack the fruit comes in the fact that they have other small lots and can fill the cars promptly, sending them off without demurrage.

There are orders coming f. o. b. to these larger companies that have to be filled and this removes all elements of the gamble, though I have not had red ink in twenty years of shipping fruit to the East. I think every year it will surely come to me. —M. E. S.

---

It is Shakespeare who says, "A jest's prosperity lies in the ear of him that hears it, never in the tongue of him that makes it." Be this as it may, there is "prosperity" in a jest. It soothes distress, aids digestion, and more than song, or dance, or wine, helps to "drive dull care away." It was care that killed the cat, and it is care that is killing the American people. We must laugh more if we would have active livers, healthy diaphrams, and live long as a nation. Hence, we say, there is prosperity in a jest.—James R. Gilmore.

---

### THE LIGHT IN THE HOME.

When the shadow of night has wrapped its mantle of darkness over the earth, all nature sleeps. Man seeks to prolong his hours of day that he may reap additional benefit.

The old oil cup, which our forefathers guarded so carefully was replaced by the tallow candle. This was a great stride in human progress. It gave more light and less smoke than the oil cup. But the candle was replaced by the lamp which shed a light several times more brilliant than the candle.

Improvements have been constantly made upon the lamp until the most perfect and satisfactory lamp of today burns with no odor, no under shadow, no smoke and but little heat. Such is the Angle Lamp, sold by the Boesch Lamp Company, of San Francisco. It gives a pleasing mellow light which is very restful to the eyes. It is easy to operate, and no trouble to keep clean and to fill. It is more economical than the ordinary lamp and its light producing power is far superior.

An illustration on page 117 shows the general style. A complete catalogue, which will be mailed free, gives full details and shows the latest designs. The prices are extremely low.

When writing for this catalogue you will do us a favor by mentioning the Cultivator.

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### HOLIDAY NUMBER.

The leading article of the August Century, the Midsummer Holiday Number, is Mr. Richard Watson Gilder's "Grover Cleveland: A Record of Friendship," a sympathetic appreciation of the personality of Mr. Cleveland as revealed in an intimacy of many years. The reminiscences will extend to some three instalments in The Century Magazine. In them Mr. Gilder records a friendship of twenty-one years, extending from the time of the famous tariff message in the first term to the ex-President's death. These papers constitute the most intimate description of Mr. Cleveland's life and character and personal traits—as President and ex-President, at work and at play—that has yet been given to the world.


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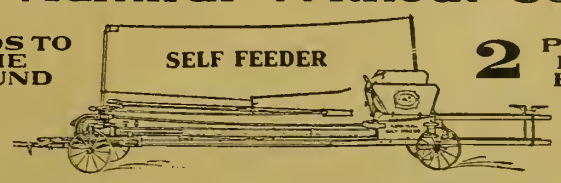

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60 H. P. Western Pumping Plant

# A Frequent Mistake

made by engine buyers is to suppose that one engine is as good as another, the only difference being in the price. Certainly, many engines can be bought for less money than the WESTERN and this fact sometimes leads the prospective purchaser to the conclusion that to buy a low-priced engine will be an economy. This is not so. The one essential of an economical engine is that it shall give the maximum service for the minimum expenditure. If it is cheapened to a point where it fails to do this, **any** money put into it is an extravagance.

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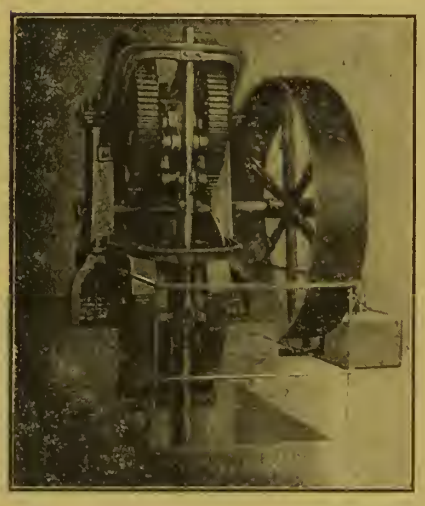

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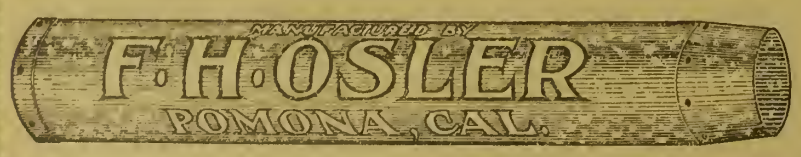


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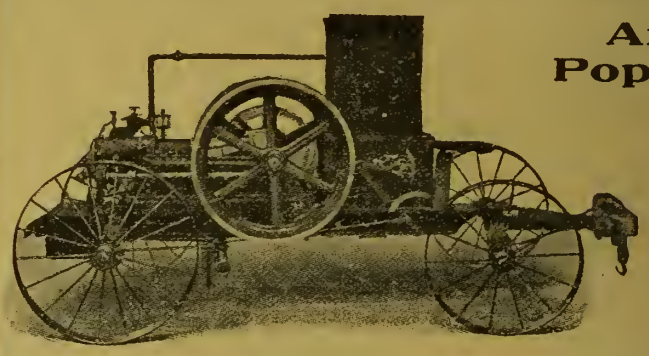

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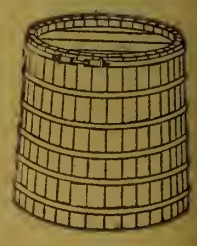

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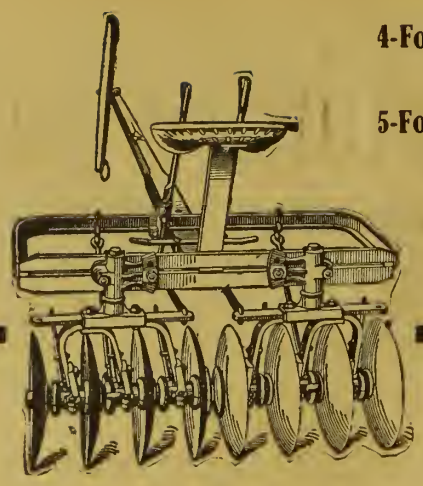

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# California Cultivator

Vol. XXXIII—No. 6 Los Angeles, California, Thursday, August 5, 1909 Subscription $1 a Year

# Walnuts in Interior California Valleys

## A Paper Writen by a Keen Observer and Practical Worker with Walnuts, Mr. Claude D. Tribble of Elk Grove

HAVING made a study of the English or Persian walnut varieties in the interior valleys, the writer begs to give the reader the benefit of his observations and experiments. It seems now only a matter of time till we have our Walnut Growers Associations and have a full share of the joys and woes in the business.

It has been demonstrated that the California black (Juglans Californica) and its hybrids with the Eastern black (Juglans Nigra) are the only roots that can be used for stock to graft on, owing to their resistance to heat and to their withstanding the excessive water in the soil during the winter and spring months.

**Planting Seed.**

The seed should be planted in the sprouting bed as soon as taken from the tree and left till they commence sprouting, when they must be transplanted to the nursery row where they should be planted eight inches apart in the rows and the rows four to six feet apart and planted about three inches deep.

At two years the trees will be ready to bud or graft—(some at one year) or if preferred they may be transplanted to the orchard to be budded or grafted later. Nothing should be used but the most vigorous seedlings as the others will make poor dwarfy slow growing trees. In transplanting cut back the top to 24 inches and shorten the tap root from one-third to one-half.

**In Nursery.**

The nursery should be thoroughly cultivated, keeping it free from weeds. Good, deep ditches are necessary for irrigation and they should be so that the ground is moist at all times. Cultivation after each irrigation will promote growth and vigor.

**Varieties.**

English walnut seedlings have been planted in the valleys for many years and there are but few of these that have merit.

The writer and his brothers have grafted over several hundred of these in the past few years, yet it is not advisable although the parties prefer to have these grafted instead of waiting for young trees to bear. One of these seedlings, the so-called Vrooman Franquette, is said to have considerable merit. It is said to have originated near Niles, California and is supposed to be a second generation Franquette.

There are but few of the known varieties adapted to the interior valleys and these are mostly of the French types of which the best known are the Franquette and Mayette.

From the writer's observation the Mayette is preferable owing to its maturing early in the autumn and escaping the discoloring caused by the fall rains which usually catch the later nuts.

The Parisienne is one of the good nuts, but usually a shy bearer, yet the writer has seen one tree of this variety that out-yields any other variety in the orchard and there are a number of varieties including the Franquette and Mayette.

The walnuts that have proven best for the coast counties and the southern part of the state, have proven a failure in the valleys, and I believe most of them have been tried and some are buying seedling and grafted trees of these varieties. They are too susceptible to our climatic conditions and sunburn.

**Develop a Better Nut.**

It is certain that some experimenter will find a nut much more adapted to our conditions than we have at present. There are many second generation nuts scattered over the valleys that are wonderful producers, but are defective as commercial nuts.

The introduced French varieties bloom late, the Franquette blooming about the first of May and the Parisienne and Mayette about the middle of May, thereby escaping the spring frosts and damp weather which is said to cause the blight.

**Grafting.**

Grafting the walnut is performed much the same as grafting other deciduous fruits and the results depend on the care of the trees and scions after grafting.

In grafting old walnut trees, English or black, we cut away all the top and use from two to six scions according to size where the limbs have been cut, using the ordinary cleft graft. The skill of the grafter has more to do with success than the methods employed. We have tried all known methods and with equal success. If the grafting is properly done and perfect care given afterwards the grafter should get 60 per cent or better in large trees and 75 to 100 per cent in small trees.

**Placid Waters of an Imperial County Irrigating Ditch.**
Courtesy Calexico Chronicle.

After grafting the scions should be protected by some sort of covering and the stock should be waxed repeatedly. Mr. Neff, of Anaheim has given a good formula for wax (in past issues of the Cultivator), also the proper kind of laths to support the growing scions.

In grafting the nursery and small trees we use methods according to size of stock and in all our grafting we have not been bothered with an excessive flow of sap.

For an illustration in covering scions (in our work this season) we used protection for 200 trees and got 80 per cent to make fine trees. In another plot 350 grafted were not protected, and we got 51 per cent.

**Budding.**

We have experimented in budding the walnut for several years and last season we made an average of 65 per cent and expect to do beeter this season. We prefer budding to grafting as the bud makes an average growth of nine feet while the scion makes an average of six feet.

Budding can be done in the fall only. We use the common shield bud and cure our buds three weeks before using. All of our spring budding has been a failure.

We cut the bud one and one-half inches long or less, tie with muslin strings and do not cut string till late in the fall or in the winter. The buds do not start till the spring following and some do not start till late in June. Ring and plate or patch buds have failed to grow for us.

**Fertilize.**

The walnut responds quickly to fertilizing with manure, it produces a rapid growth and plenty of large, well filled nuts. Alfalfa must not be planted in the walnut orchard, as we have seen it tried in an orchard that had produced a good crop of large nuts and since planting the nuts have not been half as large and they fail to bear half as much.

Interplanting with fruit trees is to be recommended.

**Diseases.**

Among diseases and pests we have the erinose of the leaf, die back and red spider (which is controlled by sulphur dust or spray). Blight seldom affects the walnut in the valleys and but little danger is done.

**Start Right.**

In conclusion we would say to get the very best root stock that you can grow and have your scions selected from the best bearing trees that it is possible to find. Remember all trees of any variety of fruit do not bear well and it is so with the walnut. If you get Mayette, Franquette or any other variety, get your scions from the best bearing trees.

Be shy of the man with seedling trees for there is not one chance in one thousand of getting what was planted. A grafted tree of good selection bears a paying crop in five years while a seedling bears a few nuts at 8 or 9 years of age, and you do not know what you will get.—Claud D. Tribble, Elk Grove.

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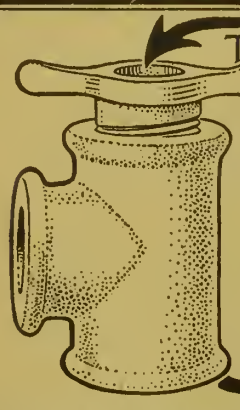

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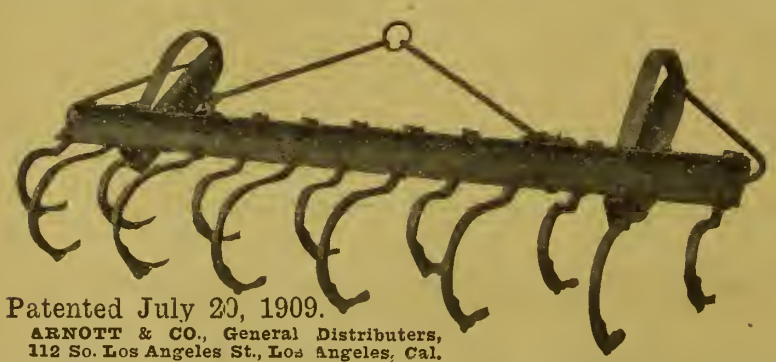

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# With the Citrus Growers

## NATIONAL INSPECTION TO PREVENT IMPORTATION OF DESTRUCTIVE INSECTS.

MR. L. O. HOWARD, Chief of the Bureau of Entomology of the U. S. Department of Agriculture, has returned to Washington from Europe, where he has been engaged during the past month in interviewing paid and volunteer agents of the Department of Agriculture and the State of Massachusetts who are assisting in the importation into the United States of the parasites and other natural enemies of the gipsy moth and brown-tail moth. In the course of this work, Doctor Howard visited France, Holland, Germany, Russia, Austria, Hungary, Switzerland and England, and the results of the trip are already evidenced by the receipt at the parasite laboratory, Melrose Highlands, Mass., of a greatly increased amount of parasitized material, which is being handled at that point by expert assistants and will subsequently be liberated in woodlands ravaged by the gipsy and brown-tail moths. A great interest is shown in the different European countries in this very large-scale experimental work, and the official entomologists and others are anxious to do everything in their power to help the United States.

The brown-tail moth, it will be remembered, was accidentally introduced into this country upon plants imported from Europe. Many other injurious insects have been brought in in the same way, and the danger still exists in the absence of any national quarantine and inspection law. Such quarantine and inspection laws are in force in nearly all the civilized countries of the world, and the United States is almost unique in its indifference to this great danger. The amount of money that has been spent by the different States in New England and by the General Government in fighting the gipsy and the brown-tail moths alone would support a national inspection service for many years. Last winter there were brought into the United States, mainly at the port of New. York, thousands of apple and pear seedlings from France which carried the winter nests of the brown-tail moth. These seedlings were distributed all over the country. An effort was made, through the assistance of the custom-house authorities and the railroads, to trace all of these shipments to their destination and to secure inspection and destruction of the injurious insects before the opening of spring. It is probable that these efforts were successful, but the experience emphasizes the necessity for a national law.

Doctor Howard was instructed by Secretary Wilson to visit the leading exporting nurseries in Holland, France, and England in order to determine the efficiency of any inspection service that might exist in those countries. He found that the inspection service in Holland is excellent, as conducted by J. Ritsema Bos, of Wageningen, and his assistants. Nursery stock bearing the inspection certificate of these officials can be accepted in this country without any danger.

In France it was found that no governmental inspection service exists and that the certificates which have hitherto accompanied nursery stock from that country can not be relied upon. After consultation with the leading nurserymen and the authorities of the Ministry of Agriculture of France, Doctor Howard was assured by the Director of Agriculture, M. Vassilliere, that the French Government will immediately establish an official inspection service, under the direction of Dr. Paul Marchal, a thoroughly competent man well known for his work on injurious insects, so that in the future nursery stock coming from France and bearing the inspection certificate of the Ministry of Agriculture can be relied upon.

In England, it was found that no governmental inspection service for home nurseries exists. Officials of the board of agriculture assured Dr. Howard that it is the desire of the board to establish such a service, but that the demand must come from the English nurserymen. Members of the Council of the National Association of Nurserymen, of England, were then interviewed, and it seems reasonably certain that this influential organization will request the Board of Agriculture to establish such a service under the direction of some competent entomologist like Mr. Cecil Warburton, at Cambridge, or Mr. F. V. Theobald, of Wye.

## BREEDING UP THE ORANGE.

For the past few years the improvement of plants and animals by selection and by hybridizing has had more attention than ever before. All kinds of field crops have been experimented with. With corn, cotton, tobacco and many other crops, marked results have been attained. New fruits have been developed, and the world has been scoured to get other varieties, because of their own merits and because of possible improvement which they may bring to our established varieties.

We believe there has been less of effort at improvement in citrus fruits than with most others. It has been the impression that the navel orange and the Eureka and Lisbon lemon are so nearly perfect that little incentive has been given to improvement. To be sure, one to two "improved" sports of value have been placed on the market, but there has been no general effort toward up-breeding.

Greater care in selection of buds is observable than formerly, when any tree which was a "navel" was good enough. Today the planter of orange trees demands of his nurseryman much care in selection of buds. A few nurseymen are living up to this demand.

Now we are informed that an expert from the Bureau of Plant Industry will locate in California and endeavor to develop a higher grade of orange than ever yet produced. The gentleman is Mr. A. D. Shamel, formerly Physiologist in charge of cotton breeding and tobacco investigations of the Bureau of Plant Industry. Regarding him, Mr. J. H. Reed writing to the Riverside Press says:

"When yet a student in the University of Illinois, Mr. Shamel commenced his experiments in trying to secure improved varieties of corn. This investigation he continued till it was demonstrated that new fixed strains could be secured, greatly im-

proved both as to yield and value of content. The work was taken up by the state university under Mr. S's direction. Corn breeding stations were established, and a new era for the industry commenced. Annual millions in value have been added to that great American product, directly traceable to the work largely started by Mr. Shamel.

His special genius for this kind of work was early recognized by the agricultural department at Washington, and his services secured, which have been signally successful, especially in the cotton and tobacco interests. New types of each product have been produced especially adapted to different soil and climatic conditions, as well as to qualities most desirable for different purposes.

The greatly increased value of these important products, during recent years, is due in large degree to Mr. Shamel's work and the enthusiasm he aroused in others to carry on similar work.

This is the sort of man about to be sent to see if improved types of oranges and lemons may be secured. For one I have no doubt of his success, hence believe his coming means a vast deal for the future of our industry.

A Busy Scene in a Redlands Packing House.

Close application to his work for several years had so impaired Mr. Shamel's health that the department, fearing a break-down, sent him to Southern California last winter. He spent some weeks here very quietly, but not idly. A long time close friend of Mr. Powell's, he at once became interested in his special work and in other citrus fruit problems, especially the possibility of creating new and improved strains of fruit, which he insisted was entirely practicable."

G. Harrold Powell writes to Mr. Reed:

"You will be interested to learn that Mr. Shamel will probably give up his work with corn and tobacco and go to California to begin a study in the building up of better strains of navels, valencias, lemons and grape fruit. It is not definitely settled, but the probabilities are good. I have long been interested in the possibilities of this line of work. * * There is no better man in the country for such a problem, and if he takes it up he will give his entire time to it."

---

The farmers' union of Palouse, Washington, will operate local warehouses under the management of an experienced grain man during the coming season.

## FENUGREEK AS A COVER CROP.

The importance of cover crops for the renovating of impoverished soils, and keeping good soils up to the standard by supplying them in a cheap, and a readily available form, with that most expensive and most essential of plant foods, nitrogen, is fully recognized by all horticulturists who have given thought and study to the matter. With a lack of nitrogen in the soil, the trees, (we speak more particularly of citrus fruit trees) are wanting in vigor, the foliage pale and wood growth poor, and the fruit either in regard to keeping or any other quality, inferior to that from well nourished healthy trees. It is only within recent years that cover crops as a means of supplying the necessary nitrogen, have become at all popular, but as seasons go by and the beneficial results of this method become more apparent, growers are taking advantage more generally of this up to date and inexpensive way of keeping their groves in first-class condition. Another important element in the soil is humus, which, although not in itself a plant food, preserves the moisture and keeps the soil in good mechanical condition. This is also supplied by the cover crop in the decaying vegetable matter. Of course, to supply nitrogen, the cover crop must be a legume or pod bearing plant. All these pod bearers draw nitrogen from the atmosphere, and the bacteria in the soil store or "fix" it in the nodules that can be seen on the roots of peas, clovers, etc., and when the crop is plowed under in the spring, and decay starts, this stored nitrogen is liberated and becomes available to the trees.

Fenugreek will prove a profitable plant for the cover crop and we doubt not California orchardists will plant largely of it this fall. It has been claimed it supplies abundant nitrogen and more humus than burr clover. It is an erect growing plant, from 1 to 2 feet high, resembling clover in being three leaved, a native of Western Asia, and also quite extensively grown in the Mediterranean region, where it is used as an early fodder plant, and in parts of India as an esculent. The seed has a strong, peculiar, aromatic odor and is used in preparing stock foods, and is also used in the making of curry powder. As a cover crop, it may be sown in the fall, at the rate of 20 pounds to the acre broadcast, or 10 to 15 pounds drilled. Plowed under in spring in its vigorous growth, fenugreek will amply repay the orchardist for the small outlay, in an enriched soil and healthy, fruit bearing trees.


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# Deciduous Fruit Culture

By J. W. Mills

### A VALUABLE PLUM.

AN express package arriving at this office recently, brought with it such a delightful odor of the orchard that it was instantly noticed by all in the office. It soon proved to be a package of plums from the San Joaquin Valley, containing three varieties, Formosa, Gaviota and Santa Rosa. It is needless to say that the plums were sampled and pronounced upon most favorably by the entire office force and by a number of orchardists who chanced to call while they were here. As a rule those sampling the three varieties placed the awards of merit in the order following; Formosa, Gaviota, Santa Rosa, but declared the poorest or rather the one of lesser merit to be exceptionally fine fruit. The Formosa is a large red colored sweet plum which compels all who taste it to take notice that it has a future.

The plums were sent to the office by Mr. Geo. C Roeding of the Fancher Creek Nurseries and regarding them, especially the Formosa, Mr. Roeding writes:

"I visited Mr. Burbank last Friday, and made a rather careful inspection of his grounds. Of all the plums he has growing at Sebastopol, and the assortment is certainly an immense one, I do not think in the entire collection there is anything which will touch the Formosa plum. The tree is an unusually vigorous and thrifty grower, sends up heavy stocky shoots covered with a luxuriant growth of foliage, the leaves being so large that on the first glance, the tree has the appearance of a cherry. The fruit is of unusually large size, and this is the case even where trees are heavily loaded. Mr. Burbank has a number of trees grafted over throughout his grounds at Sebastopol, and in no case was there a tree to be found which was not laden down with fruit, although other varieties in the immediate vicinity were void in many cases of any plums.

"The flavor of these plums is unusually rich, and even when dead ripe, there is absence of cloyness so often found in the American types of plums. The Formosa is unquestionably an improved Wickson. The shape is almost identical, but the flavor, color of the skin and the quality of the fruit will undoubtedly cause this plum to supercede such well known varieties as Wickson and Kelsey, which have been so popular for shipping purposes. There is no question about this variety being very much earlier than Wickson, because I saw Wicksons on the Sebastopol grounds, which were not even fit for shipment at the time of my visit. For eastern shipment, these plums can be picked in Santa Rosa on the 15th of July, and in the San Joaquin Valley, the period of ripening would be at least ten days earlier Another noticeable feature about the fruits is that they all practically ripen on the trees at the same time.

"The Santa Rosa plums were practically gone at the time of my visit. This variety is considerably earlier thn the Formosa and is ripe enough for shipping purposes the 1st of July. It possesses an aroma found in no other plum. There is a slight acid taste just beneath the skin of this plum, that might be objected to by some, but for my own taste, I consider it very attractive, and to many people who object to fruit, which is over-sweet, this plum will undoubtedly prove very popular.

"The Gaviota is just getting in condition to ship. Its large size and fine flavor will undoubtedly cause it to be in demand after it has fruited in different sections and its merits are fully understood. The pit of this plum is exceedingly small. This season for some unknown cause, the pits are more or less defective. This is the first year in the several years that I have been watching the fruit, that anything of this kind has been found.

"It would require too much time to go into detail as to the many other things which Mr. Burbank is experimenting with. He claims however, that within a few years he expects to have some valuable prunes, and he already has some new cherries, which judging from the reports of their sales this year, as well as the information which has been received from one of the growers at Vacaville, who has one of these varieties, promise to create a sensation when they are introduced. It will be sometime before they are offered for sale, as just at present there is not sufficient wood available to commence propagating them.

"You will probably be interested to learn that the Wonderberry about which there has been so much discussion in agricultural as well as daily papers of late, has more merit than has been credited to it. The plant is undoubtedly an improved Solanum negrum. The practical difference between the two however is, that the common night shade produces berries which are really nauseating to the palate, so much so that even if they are not very poisonous, very few would attempt to partake of many of them, while the Wonderberry, although it does not possess the flavor of some of our raspberries, blackberries, etc., -nevertheless has suffi cient flavor so that I could not resist the temptation of eating a couple of handfuls. Mr. Burbank assured me in his simple and unostentatious way, that they were good, and I must say that I had to agree with him. In the vicinity of the patch of Wonderberries, he had some of the ordinary Night Shade growing and a bite into one of these berries was sufficient. I did not attempt to sample them any further. It remains to be seen whether the Wonderberry has any commercial value. Still there is no denying the fact that it is not the fake which some publications have represented it to be, providing the seeds reproduce plants like the parent stock which I saw at Mr. Burbank's.

"The experience which Mr. Burbank has had with this berry is only another illustration of the extreme care necessary on the part of the originator of a new fruit to be sure of its merits before offering it for sale to the public. The very prominence of a man in Mr. Burbank's position is sure to cause him to be severely grilled should there be any possible question as to the quality and merit of his introductions."

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Corning is finding satisfactory returns from irrigation from wells.

# Live Stock and Dairy

By Mrs. Minna E. Sherman

**Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.**

## VALUES GAINED.

IT seems one of the wise provisions of nature that the qualities developed in the dam pass most readily through the blood of her sons to the next generation. This is wise for two reasons; first of all the heifers have a chance to regain vigor and strength, while the male animal can produce so many more of the improved type than could be grown through the female side of the line. The latest confirmation along this line is in the failure of the hens laying two hundred eggs a year to transmit that quality when the strength and stamima were not kept up by breeding in from the male line. In this case the size and therefore the vigor of the young pullets was noticeably less than that of the unregistered stock of the same breed. Had the pullets been selected for vigor and strength, and then bred to the male birds, we would expect to fix the type of great egg production, but only by holding up the strength of the birds. It is not easy to breed improved types beyond a certain point because of the barrier Nature puts up to the reduction of the strength. It is easy to wipe out improvement in the hands of the unskillful, for all gains must be maintained by the greatest care. The improvement is slow and yet there is an improvement going on all the time.

I sometimes think it is well for the health of the human family that the man raising the food is hampered by the fact that if he does not keep up the vigor of the animals they simply die out on his hands. This experiment station experiment of the egg producing fowls is interesting. It shows merely that all the science known will not make a breeder of a man. He must have the Art, the higher inspiration, the ideal in his mind, and breed to that rather than by fixed mechanical rules. Now take Mrs. Basley. Her hens did not run out to scrubs, but remained vigorous as well as great producers until she sold them. She has genius. It is as rare in breeders as it is in poets. The fact that in our Agricultural and Live stock shows the man whose money can buy the prize winners receives the ribbons, has been a detriment. The breeder of a prize winning animal should also have a certificate and be recognized. While the prizes and money encourage the fanciers, the real man of genius, the breeder, is lost to view. The fancier spends his money to exhibit, and I would say, "give him the money and ribbons but recognise the breeder as well." Fanciers can be found on every hand, but the great breeders are limited in each generation of men. To see that this is true, one has only to consider that as soon as any strain of a breed becomes fashionable it is run out by the incompentent hands that exploit the name for the money value it carries.

The further fact must be considered that the dairy sire with a high producing dam behind him may fail from lack of prepotency. This is the name given to the intanglble power of being able to pass on the good qualities, so that the succeeding generations will be as good as the preceding ones. Prepotency—this is a very strong word. Potent, producing great physical effect or strength. Pre, meaning the before strength, also carries an added meaning of being very strong in passing along the ability of the breed. The minor meaning of the word potest comes out in Heraldry where on the shield it stands for overcoming, overwhelming. While one may blame the mother of a cow for being what she is, the mothers of the human race must be respected, and only when the human mothers have happened to be particularly good have the signs in Heraldry been carried out to the end. In the dairy herd the poorer blood is overwhelmed and the intense virile qualities that carry the improved type overcome the colder blood.

### Improvement.

Now in a common herd of cows if the sire is prepotent, the improvement begins at once, for the heifer is half one thing, straight in the blood of the sire. If he is prepotent that half may overwhelm the poorer or colder blood at once. The other half of the cow's blood is either cold or beef blood. Now, sometimes, in a cow that is half beef, the inheritance may run to beef. It often occurs that a cow will be a good producer for two or three years and then by liberal feeding take on the beef character. This has occurred in the herd on the ranch where the dam was a good looking short horn and the sire a full blooded dairy animal. There was inheritance in both directions strongly brought out. The next cross on the dairy blood gives a cow that has only a quarter of cold blood and the next cross a sixteenth and then a thirty-second and then a sixty-fourth. By the time this is reached the cows will have practically no cold blood left and if the poor ones have been culled out the herd will be a fine one. In a hundred years from now, the improvement brought about by the Cow Testing Associations will make the herds of common cows bred up in blood and performance to be equal in performance to the blue blooded herds. The pedigreed stock breeders have felt this coming and are now linking performance with pure breeding. The orders of merit, advanced registry, and the different named classes that are backing up the blood line of the cows must now be won on performance. "To be" is no longer enough in dairy doings; "to do" has been added.

### Doing.

I doubt if there is a sound cow of full blooded dairy stock in this state, receiving a full amount of feed, that will not produce three hundred pounds of butter a year. I have never raised one that would not do it. If there are any that do not do this well, the owners should put them

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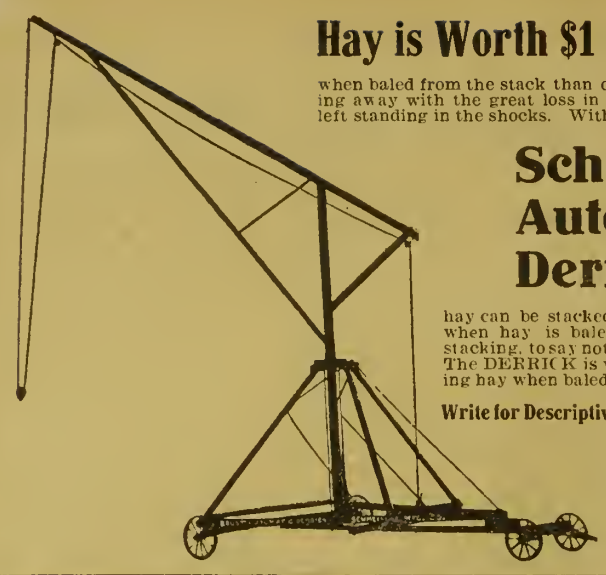

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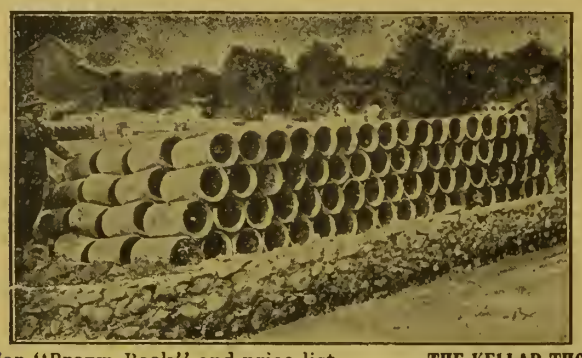

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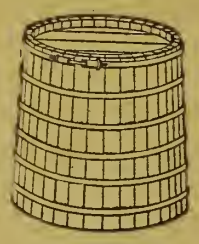

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**Berkeley, California**


out of their herds, selling them as scrubs at any price without registration papers. The ability to produce butter fat has been well held up in California by the protein character of alfalfa. Alfalfa is equal to bran as cow feed and we have fed it lavishly in the past years. When it was cheap the cows received little else, and an unskilled feeder was not at any loss, for with alfalfa to feed the cows must be very bad indeed not to return a profit. Now another era has come and we must study the cheapness of the feeds that are bought. The unskilled feeders are selling their herds as they cannot make any money out of them. Alfalfa hay at the present prices must be supplemented by corn, sorghum and grain. The common cows around Fresno, with proper feeding, will make two hundred and fifty pounds of butter and many of them are doing better.

These cows usually show either Holstein, Jersey or Durham blood; only a few scrubs are seen in the dairy herds. I have the pleasure of seeing the worst scrub in the country tied along the road as I go to town, and sometimes I think she should be photographed to add to the collection of famous ones I have as a contrast.—M. E. Sherman.

### GOOD AIR IS FOOD.

The Bible says: "Man shall not live by bread alone." He must have water clean, pure water. If he drinks poisoned water, it will bring sickness and maybe death. He must have air, clean, pure air. Water is food; air, is food. If he breathes foul, poisoned air, he will slowly poison himself, just as surely as if he drank poisoned water or ate poisoned bread. The ravages of tuberculosis are waking up the people to an understanding that they have been poisoning themselves and their animals by poisoned air.

Why is there so much more consumption in northern climates than in the tropics? Because, owing to the cold, people shut themselves and their cattle up in tight rooms and poison the air until tuberculosis ensues. What do the physicians prescribe to cure it? Plenty of pure air. Air is food, or it may be poison. Let us get that idea squarely into our minds, so we can see it in all its bearings. We northern people, one-half of the year, think only of one thing, that is heat. We must be comfortable even if we do breathe poisoned air. We look at the coal bill only and bring on all sorts of sickness to swell the doctor's bill.

If we would construct our houses and stables right, it would cost us but little more in heat for pure air and we would be saved a vast amount of disease in our families and herds.

We must think on these things more than we have done. We must spend a litle more time in getting our minds right on this question and a little more money in making our houses and stables right. Pure air is food. Bad air is poison.—Hoards Dairyman.

### FITTING HORSE COLLARS.

The principal part of a horse's harness to fit properly is the collar. Try to have it fit the neck as the shoe does the foot. If either too large or too small it is injurious and most uncomfortable. The collar that fits the horse perfectly when first put to work in the spring will be too large after working a few weeks, because horses standing idle in the barn during the winter months take on flesh which is reduced with work and activity, when spring comes. Every horse should have its own collar. Other parts of the harness can be loosened or tightened, but a collar cannot be made to fit two horses properly. The manufacturers of collars have of late years so improved the shape and material used that there is no reason why every horse is not fitted as it should be.

### QUARANTINE AGAINST ISLANDS.

The Secretary of Agricluture has issued the following order as a result of a reported outbreak of the foot and mouth disease among live stock on the Island of Jamaica, British West Indies:

All hay or straw, the product of the Island of Jamaica, British West Indies, or which has been transported through said Island, shall be disinfected as may be prescribed by the chief of the Bureau of Animal Industry, at the expense of the importer, before being unloaded from the vessel bringing it into any port of the United States, and when unloaded and landed it shall be stored and held in quarantine for a period of not less than three months in some places acceptable to the chief of the Bureau of Animal Industry and under conditions prescribed by him.

### CRACKED HOOFS.

If the colt's or horse's hoofs are cracking, do not allow them to stand in a moist stall, but keep everything dry and clean. It is standing in a wet place and then being placed in a dry pasture or on the dry road or field that causes horses' hoofs to crack. Apply one part coal tar disinfectant and six parts lard to the cracks. Vaseline and carbolic acid at the rate of one part carbolic acid to ten parts vaseline is also a good remedy. Apply daily to keep the place soft till entirely healed over.

Solano county is appealing for a good roads campaign.


**Cream Separators, all sizes, all prices. O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

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**Don't be one.** A leading farm paper says: "The modern separator no longer contains a bushel basket of 'innards' that require washing. And they skim cleaner than the old contraptions, besides." All unprejudiced folks say the same about the light, simple, sanitary, easy to clean, wear a life time Sharples Dairy Tubular Cream Separator—**the only modern cream separator made.**

The illustration shows the actual difference between simple Dairy Tubular bowls and complicated common or "bucket bowls." Tubulars are made in the world's biggest separator factory. Branch factories in Canada and Germany. Sales exceed most, if not all others combined. Write for catalog 260

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### MILCH GOATS.

The raising of milch goats is comparatively a new industry in this country. They are destined to become a factor in the dairy business and will to a large extent take the place of the cows that furnish our cities and towns with milk. It might take a long time to fully develop this industry, because there are but few milch goats in this country, and to increase the number the breeders will have to do as the pioneers did with the Angora, and that is to cross the imported European milch goat bucks with the common Mexican goat. After several crosses the offspring will become profitable milch goats. As with the Angora, they should not be kept on low marshy land, and the management of these two breeds is very similar except that the milch goat should have grass pasture and be kept much as our dairy cows are kept. The feed required for one cow will feed eight milch goats and a good milch goat will give about one-half gallon of milk per day. There is a large demand for this milk from hospitals, consumptives, persons with weak stomachs and those who have babies to raise. Goat milk is much richer than the finest Jersey cow milk, and on account of the healthfulness of the animal and its practical immunity from tuberculosis, which affects cows, there is a large demand for the milk, and at present it commands a price of $1 per gallon in the cities. This milk can be produced cheaper than cow's milk and it will always command a higher price.—William J. Cohill, in American Sheep Breeder.

### COLLAR BOILS.

When horses are put into hard work in the spring, collar boils and other festering sores are liable to form on the shoulders. Such troubles are more frequent with young horses than with old ones which have been worked through the winter. The first thing necessary is absolute rest. The trouble can not be successfully treated when the horse has to work even a part of the time. Wash the sore with warm water once each day. These washings should not be too strong, just enough to remove the pus which may have formed since the former washing, but not hard enough to remove the healthy scab which may be forming. In case there is pus forming under the scab or a layer of the skin, the formation should be lanced to allow the pus to escape. This sore should be kept open and allowed to heal from the bottom. After the affected part has been washed as above suggested, put one ounce of sulphate of zinc and three drams of tannic acid in a quart of water and apply this to the sore.

### LET THE OLD COWS GO.

After a cow has outlived the period of greatest usefulness, it is best to fill her place with another, and the best way we find to get rid of her is to dispose of her from grass. If a calf is by her side, the two are usually sold together, and the time of selling is at such time as the grass fat shows to greatest advantage.—Farmers' Mail and Breeze.

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It is planned to remove the Oregon exhibit at the Seattle Exposition to Salem for permanent exhibition at the State Fair.

### BETTER DAYS FOR MILK GOATS.

A few years ago near one of our great centers in California it was possible to obtain a milk goat of some excellence though of unknown parentage. Some of these were quite pretty and breedy-looking; some even hornless; and there were records of from three to five quarts of milk per day. But when we sought a mate for them of similar style or equal merit there was none. Perhaps some China camp kept a frightful looking animal on a strong chain with a stronger smell, out in the suburbs; and it was that or none. Or the huckster that bought chickens, ducks and goats to sell again, might have some kind of a "billy" or put you on track of one. This one probably looked like a buffalo in front, but wound up like a tom cat.

Young Grade Toggenburg Doe.

If two or three years ago there was some excuse for this state of things, there is none now. For there have been fresh importations of pedigree stock from headquarters in Switzerland; and, be it observed, these have hindquarters, too! Moreover kids have been born in California, full-blooded buck kids that should be used as widely as possible. Banish the common scrubs.

If not convenient to own a stud ourselves, perhaps we can make our dealer get one. Several of us in the old days would gladly have paid five or even ten dollars instead of the traditional fifty cents for the service, but there was nothing to be had. People have called on me from hundreds of miles away to direct them to a mate for their does when I had no good news to hand out.

The pure breds—Toggenburg, for instance, are very prepotent, and the results of a cross on selected native does are highly encouraging.

In this way a California strain of valuable dairy goats may be built up in a few years.—B. A. R. Stocker. Arroyo Grande.

### FEEDING FOR MUTTON.

Sheep must have clean water, clean feed racks and pens and sanitary surroundings if they are to make profitable gains.

The bedding should be liberal and should be changed frequently and not be allowed to become foul or damp, for sheep will not thrive unless kept absolutely dry and afforded pure air.

The foods best adapted for sheep are clover and alfalfa hay, all that will be cleaned up at a feeding; corn ensilage about four pounds to each head, or roots when ensilage is not available, and two parts each of wheat bran, oats, peas or corn, and one part oil cake, or one part wheat bran, one part corn meal and one part ground oats, supplemented with about one small handful of oil meal to each lamb.

Many feeders prefer to feed the grain whole, and generally it will produce better results, although many feeders still cling to the idea that the sheep, as well as some other farm animals, will derive more nutrition from ground grains.

The choice of the grain foods will depend to a certain extent upon what kinds of home-grown foods are available, and the rations should be made up with an eye to economy, as well as to that of producing the most rapid gains.

It is important that those who feed lambs should have proper accommodations for them.

---

The completion of a new ditch at Grant's Pass, Oregon, is greatly increasing the output of berries and small fruits.


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# Small Fruits and Vegetables

## THIS MONTH.

THIS MONTH is a season of little inducement to work in the garden. The freshness of spring is gone, and the old leaves, vines and other refuse of the garden are unsightly. These should be cut, burned or piled in the compost heap for a mulch for next season. We believe, however, that it is wise not to use this compost on the garden. It is very liable to carry disease germs which might affect the same kind of crop another year, but it may be used without danger on orchard or other field crops.

After removal, the ground may be spaded, or where water is abundant it would perhaps be more profitable to plant a leguminous crop to occupy the soil and make a cover crop to turn under later. If stable manure is to be used for fertilizer, it could be plowed under and wetted down so as to get it in shape for the next season.

But it must be borne in mind that this is not a season of entire dearth of producing good things for the table. The second or fall crop of potatoes may be planted at once; also, of course, cabbage, cauliflower, celery, onions and green peas. The first sowing of tomatoes for the winter crop is made this month. If lettuce, radishes and such crops are sown at this time, extra care must be taken to keep them supplied with moisture. In fact, almost daily applications of water are necessary to give tender crops, and even then a partial shade is advisable.

## PREMIUM FOR CRIMSON WINTER

Mr. J. B. Wagner of Pasadena writes us that he is making his usual effort at the coming state fair to induce the exhibition of the finest display of crimson winter rhubarb ever made. He is supplementing the regular premium offered by the state fair management, and states:

If the reader will turn to page 98 of the premium list of the coming State Fair he will note the following premium offers on rhubarb made by me:

I will offer prizes at all state fairs for best exhibit of winter rhubarb: First prize, $50 worth of rhubarb plants; second prize, $25 worth; third prize, $10 worth. To all who compete and do not receive one of above prizes, $2.50 worth of plants will be given. This offer open to all growers of the state regardless of where they secured plants.

Now I want every grower who possibly can to enter this contest He will get enough to pay the cost of same in plants. In the past only a few lots have been exhibited and those in a miscellaneous way. The time is short to do much in the way of forcing for exhibition purposes, but very surprising and satisfactory results may be obtained by following rules given below:

Cut off all the buds carefully except a couple of the strongest, close to crown, thus forcing all the growth into a few crowns or buds. Not over one or two should be allowed to develp stems.

To stimulate it to its utmost get a large flower pot or 5-gallon oil can, having holes in sides and bottom. Place same about one or one and one-half feet from plant, bed it in the ground so that top is even with surface between hills. Fill this often with liquid manure and water of which too much cannot be used. A good substitute for liquid manure is nitrate of soda dissolved in water, using about a teaspoonful to two or three quarts of water applied every few days. The results of either process will be highly satisfactory and surprising, and will pay any one for the effort.

The planting this season has been heavy. About two hundred acres are at Pomona by a local company. Also a number have put out from five to ten acre fields. Several other large tracts have been planted, including the planting at Monrovia of 150 acres by the J. R. Loftus Company. Now is a good time to plant. I have just completed the sale of two large orders, one for 18,000 and one for 20,000 plants that are now being set out.

## GARDEN HINTS.

More depends on the proper setting of a strawberry plant or any kind of plant or tree than most people can be led to believe. If the roots to the strawberry plant are very long it is best, though not essential, to trim them back to about four inches. The holes should be opened broad and deep enough to admit of the roots being spread fan-shaped and the earth should be pressed firmly around them. The proper depth to set a plant or tree of any kind is the depth that nature set them. Observe and discover this when you dig them up.

In the garden bed strawberry plants can be set in rows fifteen inches apart, with the plants fifteen inches apart in the row. But between each series of three rows there must be left an alley or walk two feet wide. All runners must, of course, be kept closely clipped from plants set this way, and indeed from all plants grown in the stool or hill system.

Dewberry plants should be set six feet apart. A good plan is to run the rows six feet apart and then cross at right angles with rows the same distance apart. Right in the check, where the cross comes, the plant can be set, spreading out the roots well. Raspberries, blackberries and grape vines can all be set this way. Plants or vines set this way can be plowed both ways and the hoe almost entirely dispensed with in cultivating the crop.

A good way to apply manure or fertilizer to plants set this way is to drill it in the open furrow on the four sides of the plant and cover with earth. About the same manure can be used on dewberries, blackberries and grapes as on the strawberries.

## SQUASH BUGS

The suash bug is a flat insect, rusty black in color, with yellow belly. It is about a half inch long, and emits an offensive odor. It winters in the adult form underneath leaves, boards, etc., and lays its eggs on the under side of leaves in June. The young are hatched out in a short time.

To get rid of them, hand picking in the morning and evening, when the bugs are less active, is a good plan. Kerosene emulsion diluted with 12 parts water sprinkled on and about plants is recommended. Shingles or small boards put about the plants serve as hiding places for these insects, and then they can easily be killed.

All harness leather needs an occasional oiling and blacking, and

**EUREKA Harness Oil**

is best for the purpose. There is no acid quality about it and it cannot become rancid. "Eureka" penetrates deep into the leather and *stays there* to resist the rotting effects of wet and weather. Use Eureka Harness Oil.

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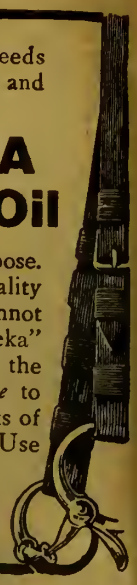

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# The Ornamental Garden

### THIS MONTH

PANSIES and stocks should be sown in well-prepared seed beds during this month. Light sandy soil is preferable, and it should be well pulverized and levelled before seeding. Cover the seed very lightly and lay burlap on top to keep soil from crusting over, and of course the ground must be kept wet. As soon as the tiny plants appear through the soil remove the burlap and give partial shade to the ground with lath or thin cloth.

The violet beds should be given attention, the old plants divided and the new stock re-planted. Mulching should be given to the older plants and the soil thoroughly worked. Of course it goes without saying that abundant moisture must be supplied this month when the lower water levels are becoming exhausted.

This is a good time to sow the hardy perennials which will be expected to bloom early next spring; cinerarias, primulas, carnations, salvia, China pinks, verbenas, and petunias may be sown. For sowing in boxes use a fine leaf mold which has been screened and mixed with sand. Seeds may be kept covered with glass until through the ground. Care must be taken to give air, and they may be hardened by partially removing the glass for several days before exposing.

Golden glow and golden rod are both about to come into bloom and will need abundance of moisture. Shasta daisies are now losing their beauty, especially if they have not been kept cut back closely. The tops may be mown to induce new growth of flower stocks. However, the best part of their season is gone, except for those that were planted late. These may be divided now if earlier bloom is wished for next spring, but the regular time for dividing them is January or March. We have found them remarkably hardy and capable of being divided and re-planted every month in the year.

The lawn now needs an abundance of moisture. If allowed to become brown it loses its vitality and, especially on slopes, begins to dry out, and trouble will begin to appear in the shape of devil grass and weeds. Perhaps we should be more polite and refer to the former pest by its proper name as Bermuda grass, but the other word expresses one's feelings more satisfoctorily. Many have entirely given their lawns over to this pest and show with some claimed satisfaction their success in making a fairly good looking lawn. Unless a blue grass lawn is given continual attention, one might just as well start with Bermuda grass, but constant raking, abundance of fertilizer and water will give the blue grass if one wants to pay the price. During the warm months, Bermuda makes a very satisfactory sward, but the first cold weather of December turns it a very unsightly brown, and though it is still a good mat, it is not attractive. If the blue grass is desired, one should rake over the lawn almost every day to cut the runners of the Bermuda, and this should be varied with the "knee drill" to uproot many of the plants. It must be remembered that the seed either fly through the air or are carried in the water, and it is a constant fight to keep them out.

Lippia is proving very satisfactory. I have planted almost every month in the year and find that it responds with alacrity to any kind of treatment. Some was planted a few days ago, abundance of water being given immediately and for several days afterward, and little runners are already starting out to cover the ground. Lippia is not to be compared with blue grass if one wishes to give it care, but on rocky hillsides or where impossible to give the care necessary for blue grass, it is very satisfactory. Those having poultry will find that it is very greatly relished, and when they are allowed to run on it a few hours every day, no lawn mower will be needed.

Rowing on Imperial Valley Canals.

### PROPAGATING THE ROSE.

The first step in the propagation of roses on their own roots is to thoroughly pulverize and enrich the soil surrounding the plant from which propagation is to be done. Then "peg down" with hair pin wire about a foot long with a mallet the lower part of the branches from which cuttings are to be taken. The effect is to start growth on these lower branches. Make cuttings with a "heel" where that can be done, and cut in the fall at the time the foliage falls from the bushes. Cut to three eyes and put cuttings into a tub of water, leaving them there for a few hours. Two of the eyes should be above the "old wood." Put the cuttings into a sandy bed which has been shaded and that is not exposed to the currents of air. After thirty days, at growing temperature, the cuttings should be rooted; then increase the air currents gradually until the plants are exposed to the outside atmosphere.

To make a good rich propagating bed, dig a good deep trench and fill with barn-yard compost from the horse stable to within nine inches and cover this with soil made of two-thirds sand and one-third rich alluvial soil, the essential point in propagating being to get the new vigorous tissues of the wood which will callous and make roots, then to keep the cuttings moist and out of draft until they are well started. In the spring set out in the propagating bed properly enriched and prepared so that rapid growth can be made during the summer to prepare the plants for the fall trade.

### THE PHLOX.

This is from "phlox"—a flame—owing to the brilliancy of its colors. This is a native of North America—a flower of our own land. It was so hardy and beautiful that it was taken to Europe in the hope of improving it. The hope was more than realized. The flower went over as a wild, untutored Indian maiden, and was returned to us as a princess arrayed in fascinating splendor.

In improving flowers, when but little removed from the parent stock, there is a tendency for plants to revert to the original type; but after long and continued effort they are so far removed that they break loose from their antecedents, going into a wild abandon and prodigality of loveliness. And we have now reached a point where before us are surprises of form and color.

### SCHOOL GARDENS.

I believe that it ought to be a part of every boy's education and of every girl's, too, to learn how to take care of vegetables, fruits and flowers. I believe, too, that the main trouble with most of the troublesome boys and girls is that they don't have enough work to do, or enough of anything worth while to interest them. They are restless and uneasy, and hunting trouble all the time. I believe that nine-tenths of the incorrigible and troublesome children can be permanently cured by having a garden of their own. I believe a few things still more radical than this along this same line, but this is enough for a start. And I believe further, that the boy who has an interest in a melon patch and a small garden all his own will be very likely to respect the property rights of others.—St. Joseph Fruit Grower.

Heavy rains fell last week in some portions of the Colorado Desert.

If apples tend to be wormy, spray with arsenicals; if the skin is rough or diseased, spray with Bordeaux mixture.

The Ceres creamery averages about 40,000 pounds per month or an average of nearly a ton per day. This creamery is a co-operative organization having over 200 members.


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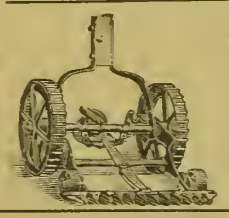

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**Fresno, California**

# California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, August 5, 1909

Address All Communications to

CULTIVATOR PUBLISHING CO.

115½ No. Broadway, Los Angeles.

733 Merchants' Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY

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Entered at the Post Office at Los Angeles, California, as Second-Class Matter.


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### A GOOD SYSTEM.

An article in a recent number of the Saturday Evening Post corrects in an interesting way a somewhat general misapprehension as to the safety of banks and of national banks in particular. In the panic of 1893 the final net loss to the depositors of the sixty-five national banks that failed that year was but $4,508,164, or a little less than one-third of one per cent of the total amount of individual deposits. More than half of the total loss occurred in four out of the sixty-five, and one-quarter of the total loss occurred in one bank, which was, of course, a striking example of rotten banking combined with rotten politics.

An honestly managed bank may perhaps be closed by a "run," but if the assets are not there to pay depositors in full, it is a safe proposition that some one has taken them unlawfully.

The year ending Oct. 31, 1908, was also a trying time for banks, thirty-three national banks going into the hands of receivers. Nine have resumed, and others have paid in full. In the final account, the relative loss will be less than in 1893. Seven of the failed banks were wrecked by their cashiers, four by fraudulent management, and six by reason of excessive and illegal loans. One only, as reported by the Comptroller of the Currency, failed on account of "the general stringency of the money market."

The conclusions drawn are favorable to our present banking system, when honest management prevails—and that prevails so generally that in the worst panic year known during the 44 years since the national bank system was organized, the actual loss to depositors was about three mills on the dollar.

### IRRIGATION.

Next Monday will witness the opening of the Irrigation Congress at Spokane, Washington. This congress in its former meetings has had to do with big things which concern the West in a way which will command for it a place in American history. What it has accomplished has not been without opposition, not only from large interests in the East but strange as it may seem, from some interests in the West as well. The organization has made its mistakes and has been used possibly by some to accomplish ends which were not for the best interests of all, but in the main it is worthy of the support of the nation, and as a general thing it has had that support. It has been rumored that there would be presented at this meeting a resolution calling upon the United States Government to bond itself for five billion dollars for various lines of development, conservation, reclamation, etc. This is rather a wild and woolly proposition, and we do not for a moment suppose that the congress will endorse anything of such magnitude.

The Cultivator proposes to touch upon points which will be of interest and will give special attention in its irrigation department to matters which will be handled by this congress which promises to be one of the greatest. We trust this will be the means of bringing before our readers a fund of information which will be of much value.

### GREEN MANURE CROPS.

One of the strongest factors in the up-building of the mechanical and even the chemical condition of the soil is the green manure crop. The Cultivator is gathering data for use in an article about the first of September. In fact, we imagine almost one whole number of the paper will be pretty well filled with facts regarding cover crops. We speak of it now that our subscribers who have had experience along this line and have determined upon procedure and the factors of successful use of the cover crops, may send in to us such information as they have. This will be appreciated by every reader of the Cultivator who is gathering points from the experience of others. The use of the green manure crop is increasing every year, and we believe that the more its increase can be encouraged, the greater will be the profit to the orchardist.

### EDUCATING TEACHERS IN AGRICULTURE

The State University of Maine has established a course in agriculture for teachers. It is open to college graduates, to high school teachers who have had at least two year's experience, and to normal school graduates who have had three years experience in teaching. The Minnesota State University is also contemplating a similar course. This is beginning at the right end of the problem, for until qualified teachers can be had for these courses, the work should not be taken up in our public schools. It surely is a pitiful sight to see a teacher attempting to educate her pupils in subjects of which she has no practical knowledge herself.

### DUE CREDIT.

There is at the present time in California a representative of the Bureau of Plant Industry who is making a study of varieties of cacti and of desert conditions, with a view to determining the worth of cactus and its adaptability to conditions on land which will probably always be under desert conditions. This gentleman is Mr. Chas. Henry Thompson who is connected with the Missouri Botanical Gardens, but at present working under direction of the Bureau of Plant Industry. Mr. Thompson said that the city park of Riverside had one of the finest collections of cacti in the world and the most complete assortment of specimens of native American varieties.

Referring to spineless cactus, and especially to Luther Burbank and his connection with it, Mr. Thompson said:

"Mr. Burbank is perhaps overrated. He has become conspicuous because of newspaper boosting. The yellow journals have accomplished more in print than he has done in science. Do not misunderstand me to decry Mr. Burbank's worth. But the spineles cactus existed many years prior to his investigations and experiments. He has been shrewd in the selection of his experiments and his ability to produce freak specimens in nature, but his work is not so much of universal benefit as it is of value to California alone. The fruits, for example, which he has perfected are not of such varieties as will benefit the east, with the exception of his sugar prune. Mr. Burbank has not solicited notoriety, but newspapers have written so much of him, and he has been termed 'wizard' so often that the public has come to regard him as a plant prestidigitator."

The above is, we believe, a most just estimate of Mr. Burbank's work in California. If a true estimate could be placed upon his work we feel that more good would be accomplished than ever can be by the yellow-press-advance-agent style of treating it. As Mr. Thompson says, we do not believe that Mr. Burbank has ever sought for notoriety, but by a combination of circumstances the yellow press has taken him up in such a way that an exaggerated estimate has been placed upon results attained by him, until the careful observer has been nauseated.

The only good which we can see in such publicity is that attention has been attracted to the advantages of seed selection and plant betterment so that orchardists have more fully realized it. Let not jealousy take from anyone the fullest credit for good work done. Let every credit be given, but let us not be so anxious to give credit that a condition bordering on hysteria is created and the close observer turned away and prevented from giving real credit due.

---

If there is one enterprise on earth that a "quitter" should leave severely alone, it is advertising. To make a success of advertising, one must be prepared to stick like a barnacle on a boat's bottom. He should know before he begins it that he must spend money—lots of it. Somebody must tell him that he cannot hope to reap results commensurate with his expenditure early in the game. Advertising does not jerk; it pulls. It begins very gently at first, but the pull is steady. It increases day by day and year by year until it exerts an irresistible power.—John Wanamaker.

---

"The salt of life is work," according to some wise man. But there are some people who do not like too much salt.

## Shop Talk

**SAMPLE COPIES.**—This is to suggest to the readers of the Cultivator that upon request we will gladly mail, free of charge, sample copies of our paper. It often happens that an article published might be of special value to a neighbor or relative, and which would be appreciated by them. We will gladly mail such back numbers when asked for if enough remain on hand.

In this connection too, we want to mention that we can now make an inducement to send in new subscriptions and if in ordering samples sent, mention is made that you hope to interest some new subscribers, we will send order blanks and full particulars by return mail.

There are many new comers and others to whom the Cultivator would be of great value and whose attention has never been called to it. By taking advantage of our offer, subscribers will be doing these people a favor and at the same time reap a benefit for themselves and their favorite paper. Send along a list of names and we will do the rest.

---

**CHANGE OF ADDRESS.**—When it is desired that the address on the Cultivator be changed, subscribers will please bear in mind that we must have the old address as well as the new. Our list is large and indexed according to postoffice, so it is necessary to give this information in full.

# Agricultural Notes of the Pacific Coast

## Northern California

Yolo county boasts of corn twelve feet high.

Cottonwood, Shasta county, is shipping a carload of fruit daily.

Sonoma county will raise about 20,000 bales of hops this year.

Work began last week in the Armsby packing plant at Yuba City.

Orland, Glenn county, reports the alfalfa fields as seriously affected with dodder.

Yuba City has shipped ten carloads of pears under refrigeration to the London market

Several filings for irrigation rights have been made along Putah Creek in western Yolo county.

Some of last year's hold over dried fruit in storage in Yuba City is now being packed and sent to market.

It looks a little like carrying coals to Newcastle, but Sebastopol reports shipping a carload of apples to Oregon.

A large reservoir is to be constructed in Lake county to store water for irrigating in Winters and Davis, Yolo County.

Arrangements are about completed for the big live stock show and race meet to be held in Woodland, Yolo county, August 18 to 21.

Red Bluff reports grain warehouses almost empty, most of the grain which is unthreshed having been picked up by anxious buyers.

Santa Rosa Grange Patrons of Husbandry at its recent meeting discussed the pure food law and commended the department for its rigid enforcement.

At the recent Anti-Dredgers Convention held in Sacramento a committee of six was appointed to investigate the operations of gold dredgers in this state.

Wheatland reports the contracting for a number of crops of hops at satisfactory prices, and a general condition of the market which promises good returns to all hop people.

Pears have brought from $300 to $400 per car more than was obtained last year. This is thought to be in part due to the fact that they were much earlier this year than usual.

The State Engineer is having surveys made through Moon Bend below Colusa for the purpose of determining the cost and practicability of cutting a channel. It is estimated the cost will be about $25,000.

Los Angeles capitalists who are investigating the advisability of establishing a beet sugar factory in Yolo county demand a good sized bonus of the producers of that section as an inducement for the building of a factory. It is rumored that Yolo county people will refuse the offer.

The fruit situation at Vacaville and other points has been very serious because of shortage of refrigerator cars. One large shipper is reported as having said that the car service this year will probably involve the loss of large sums of money. The shippers are generally prepared to hold the railroads responsible. Vacaville recently had two cars in hand for shipping, with frult on hand which would have filled many times that number.

## Central California

Corcoran beets are running about 22 per cent saccharine content.

Modesto boasts of about 230,000 acres of alfalfa surrounding it.

Hanford claims to have more than 500 dairymen in its immediate vicinity.

The Selma Cannery will have an output this year of over 50,000 cases of peaches.

The Chamberlin Canning Company at Bakersfield put up 25 tons of apricots this season.

The management of the Tulare county fair is making preparations for a bigger fair than ever.

The farmers' union is shipping largely of watermelons from Turlock, which has an immense acreage.

One Turlock watermelon grower has sold his melons from twenty-five acres for the lump sum of $2,000.

Corcoran creamery is shipping about a 100 gallons of sweet cream, pasteurized, to Los Angeles, daily.

The heavy drop of bellefleurs in the Pajaro Valley has reduced what was at first thought to be a record crop.

The Modesto grange reports that more gypsum is sold around Modesto, Ceres and Turlock than all fertilizers combined.

Lindsay estimates a shipment of 25 cars fresh grapes this season, with some of the first shipments now ready to go.

The Lucerne creamery has moved into its new quarters in Hanford. One day's churning recently aggregated 8500 pounds.

Farmers at Turlock have pooled their issues in the marketing of the watermelon crop which was sold to the farmers' union.

The people of Corcoran are planning for a Sugar Day in which sugar will be dispensed and a reception held at the big sugar factory.

Turlock is now forwarding a superior grade of cantaloupes largely to the Northwest. The crop will not be quite so large as usual.

The Modesto grange is buying heavily of red oats, the only variety produced in that section. The general price is in the neighborhood of two dollars.

The Watsonville Cold Storage Company has filed articles of incorporation, the first directors being: E. A. Hall, J. E. Trafton, O. D. Stoesser, W. J. McGrath, A. W Cox, J. H. Thompson, J. D. Murphy, J. J. Morey, J. B. Holohan and H. S. Farnsworth.

Reedley is boasting of a gigantic zanzibarensis, or one of the castor beans, which was planted on the 12th of May and measured on the 23d of July eleven feet and ten inches. It is on the ranch of Geo. S. Baker, a short distance south of Reedley. This variety is one of the most ornamental of the castors.

The Modesto Canning Company has closed its recent campaign on apricots of which it made a big pack of exceptionally fine fruit. It is reported that owing to lack of capital the cannery may close for the rest of the season. The growers are hoping, however, that peaches and tomatoes may yet be handled.

## Southern California

Grape crushing began about the first at the big Cucamonga winery.

Imperial Valley hog growers are now receiving six cents f. o. b. local points.

The mountain valleys back of Redlands report an excellent crop of hay and grain.

Squirrels are doing immense damage to the grain fields of the San Marcos Valley, San Diego county.

In the lands of the Italian Vineyard Company at Cucamonga there are over forty varieties of European grapes.

The "California Grown Imported Date Ranch Company" has filed articles of incorporation in San Bernardino county.

It is reported that Santa Barbara and Ventura counties will produce about 250 carloads of dried apricots this season.

Freestone peaches seem to be selling rather low, the price quoted being from $13 to $15. Some clings have sold as high as $20.

Pomona Cannery put up about 300,000 cans of apricots and is now working on peaches. About a million cans is expected to be the output.

Canners and dryers in the town of Ventura handled over 600 tons of green apricots this season. The largest one day's run was fifty tons.

The pioneers opening up the Palo Verde country in Eastern Riverside county, had a hard fight with the waters of the Colorado during its flood.

The first car of Imperial Valley grapes to be shipped to Chicago is being watched with interest and at present one car per day is being forwarded.

The Southern California Sugar Company at Santa Ana started with a force of about 150 men and find the big new plant very satisfactory in its work.

The acreage of lima beans in Ventura county is about the same as last year, but it is thought the output will be about 700,000 bags as against 900,000 last year.

The item in last week's issue that German buyers are willing to pay ten cents a pound for Imperial Valley honey should have stated that this price was f. o. b. German points.

Orchardists near Colton have begun action against the big cement works near that town because of the dust lodging on leaves of orange trees proving detrimental to best growth.

The directors for the Ventura County Bean Growers' Association are: Chas. Donlon, G. C. Power, C. J. Daily, F. A. Snyder, Roger Edwards, A. Camarillo, T. G. Gabbert, D. F. Sheldon, C. L. Chrisman, H. K. Snow, Jr., and J. D. McGrath.

The new board of directors elected for the Imperial- Coachella Valley farmers association are: L. W. Ott, Holtville; F. L. Stahl, Brawley; A. L. Storie, Imperial; Fred Fuller, Heber; Wilbur Clark, Silsbee; I. Mayfield, El Centro. A director from the Calexico district will be elected soon. From the Coachella district, L. G. Abbott, of Coachella, and George Beach of Thermal, have thus far been named as directors.

## The Coast

Sixty cars of cantaloupes were shipped from Glendale, Arizona, this season.

Potato growers at Leland, Idaho, report the appearance of the Colorado potato beetle

The Hawaiian Sisal Company ships fifty bales of sisal to San Francisco every month.

The first annual cherry fair and festival recently closed at Gresham, Oregon, was a complete success.

Reclamation engineers are to meet in Portland, Oregon, with the Secretary of the Interior on August 15th.

The drawing of public land near Spokane has attracted immense crowds, over 300,000 applying for filing.

The Oregon hop crop is estimated at 65,000 bales. The quality will be good though not so heavy as last year.

There is a new railway in contemplation from Globe to Phoenix, Arizona which will open up some good agricultural land.

The local farmers' union at Waitsburg, Washington, will build large warehouses on the O. R. & N. at Menoken and Alto.

The acreage of oats in Washington is increased twenty per cent over that of last year, while the output will be nearly double.

Owing to large number of new machines introduced into Idaho this year the threshing season will be much shorter than heretofore.

Following heavy rains near Helena, Mont., the loco weed made very heavy growth which resulted in poisoning many sheep, 500 from one band being noted.

The Clydesdale is the principal draft horse of Canada, a recent canvass of the Province of Ontario showing 80,000 as against 18,000 Percherons, and 1,500 Belgians.

Portland reports that the city is practically undergoing a hay famine. Some high-grade timothy is selling at $30, and the lower grades of grain hay are commanding as high as $20.

The water users of District No. 2 near Yuma recently held a mass meeting to discuss questions submitted by the Congressional Committee which will visit Arizona in October.

Hawaiian Islands have a nursery conducted by the government, which is producing immense numbers of ironwoods, eucalypts, and other forest trees for free distribution in the various islands.

Governor Freer of the Hawaiian Islands has signed proclamations creating four new forest reserves in the territory, whereby 83,243 acres of government land are set apart for forest purposes.

Poultry people of Whitman county, Washington, have just organized the Whitman County Poultry and Pet Stock Association. Plans are being made for the holding of a show in Colfax in January.

Farmers at Pendleton, Oregon, under the corporate name of the Farmers Railroad and Navigation Company, are building an electric railway which will handle the products of their farms more satisfactorily.

**FOR MOULTING HENS**

**Feed**

# MIDLAND

## Poultry Food No. 4

***$1.95 per Sack***

Midland moulting food is a balanced ration for the moulting hen and is absolutely the best food to feed for eggs and feathers. By feeding No. 4 now you bring your flock through the moult in good condition, which insures eggs when the market is high.

***Petaluma Incubators and Brooders***

Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

Send for our Illustrated Catalogue.

**Petaluma Incubator Company**

**Petaluma, California**

Our General Agents for Incubators and Brooders and Midland Poultry Food:

**Petaluma Incubator Co., Petaluma, Cal.**
**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**
**Berrar & Robertson, San Jose, Cal.**

**Feed for Eggs Next Fall by Starting In Now with**

# West Coast Egg Food

Don't make the common mistake of supposing that you can let the fowls get all run down before or during molting and then bring them up by heavy feeding later. You won't get eggs that way.

West Coast Egg Food has been the leader for many years. It is even better this season. We know how to make rightly balanced rations. That is our business. And we have the best equipped mill for doing it. No unsound grain, no mill refuse and such stuffs in ours.

Send for Biddy Booklet with many testimonials. Ask your neighbors, for there are more West Coast Poultry Foods fed in Southern California than all other kinds put together. If your dealer doesn't sell "West Coast" don't take others "just as good," but send to us and we will serve you right.

75-lb. sack, $1.90; 90 lbs., $2.25; 100 lbs., $2.50; 50 lbs., $1.30.

**West Coast Mill**

**Cor. Griffin and Alhambra, Los Angeles**

# Kill Insects

**ON PLANTS** **ON POULTRY**

**With**

**Devils**

**Dust**

Devils Dust is guaranteed to Kill all kinds of vermin on poultry and insects on plant life.
**1 lb trial package 40c postpaid.**

**HENRY ALBERS CO.,** 845 SOUTH MAIN LOS ANGELES


The California Seed Growers Co., at Westminster is now shipping large quantities of onion sets.

Lack of warm weather has seriously affected the yield of honey in Yakima county, Washington.

# Profit in the Poultry Yard

By Mrs. Frank Metcalf

**We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.**

## HOW TO KEEP POULTRY FREE FROM LICE.

ONE of the most difficult and trying problems which the poultry keeper has to meet is that of keeping his poultry houses and stock reasonably free from lice, mites and other external parasites. There are many proprietary preparations on the market designed to accomplish this end in one way or another. Most of these preparations are, in proportion to their efficiency, very expensive. Many of them have been tried at the Maine Experiment Station. The Station has finally, however, come to follow the procedure outlined to the exclusion of all others, and with results which are extremely satisfactory. Indeed, it may be said that vermin on the poultry or in the houses no longer cause any appreciable annoyance in the work of the station plant.

In keeping a poultry plant free from lice there are two points of attack: One, the birds themselves; the other, the houses, nest boxes, roosting boards, etc. For the birds themselves experience has shown that the best way to get rid of the lice is by the use of a dusting powder to be worked into the feathers. In using any kind of lice powder on poultry, whether the one described in this circular or some other, it should always be remembered that a single application of powder is not sufficient When there are lice present on a bird there are always unhatched eggs of lice ("nits") present too. The proper procedure is to follow up a first application of powder with a second at an interval of four days to a week. If the birds are badly infested at the beginning it may be necessary to make still a third application. To clean the cracks and crevices of the woodwork of houses and nests of lice and vermin a liquid spray or paint is probably the most desirable form of application.

The lice powder which the Station uses is made at a cost of only a few cents a pound in the following way:—

Take 3 parts of gasoline, 1 part of crude carbolic acid. Mix these together and add gradually with stirring, enough plaster of Paris to take up all the moisture. The liquid and the dry plaster should be thoroughly mixed and stirred so that the liquid will be uniformly distributed through the mass of plaster. When enough plaster has been added the resulting mixture should be a dry, pinkish brown powder having a fairly strong carbolic odor and a rather less pronounced gasoline odor.

Do not use more plaster in mixing than is necessary to blot up the liquid. This powder is to be worked into the feathers of the birds affected with vermin. The bulk of the application should be in the fluff around the vent and on the ventral side of the body and in the fluff under the wings. Its efficiency, which is greater than that of any other lice powder known to the writer, can be very easily demonstrated by anyone to his own satisfaction. Take a bird that is covered with lice and apply the powder in the manner just described. After a lapse of about a minute, shake the bird, loosening its feathers with the fingers at the same time, over a clean piece of paper. Dead and dying lice will drop on the paper in great numbers. Anyone who will try this experiment will have no further doubt of the wonderful efficiency and value of this powder.

For a spray or paint to be applied to roosting boards, nest boxes or walls and floor of the hen houses the following preparation is used:—3 parts of kerosene and 1 part crude carbolic acid. This is stirred up when used and may be applied with any of the hand spray pumps or with a brush.

In both of these formulae it is highly important that crude carbolic acid be used instead of the purified product. Be sure and insist to the druggist on getting crude carbolic acid. It is a dark brown, dirty looking liquid and its value depends on the fact that it contains tar oil and tar bases in addition to the pure phenol (carbolic acid.)

The routine method which the Station uses in handling its stock with reference to the lice problem is as follows:—

All hatching and rearing of chickens is done in incubators and brooders. The growing chickens are never allowed to come into any contact whatever with old hens. Therefore, when the pullets are ready to go into the laying houses in the fall they are free from lice. Sometime in the late summer, usually in August or early in September, the laying houses are given a thorough cleaning. They are first scraped, scoured and washed out with water thrown on the walls and floor with as much pressure as possible from a hose. They are then given two thorough sprayings, with an interval of several days intervening, with a solution of creosol. Then the roosting boards, nests, floors and walls to a height of about five feet are thoroughly sprayed with the lice paint (kerosene oil and crude carbolic acid described above.) Finally, any yearling, or older birds, whether male or female, which are to be kept over the next year's work are given two or three successive dustings, at intervals of several days to a week between each application, with the lice powder described above, before they are put into the cleaned houses.

---

It will pay every owner of a flock of poultry to sit down and figure out what can be done to lessen the amount of labor required daily. One will be surprised to find out how many useless steps are taken in the care of poultry on most places.

---

Regulate the number of hens to the size of the yard and house. Don't keep too many, but keep good ones, and then give them good care. That is the secret of success in poultry raising.

---

Don't keep poultry. Make them keep themselves and a good profit for you.

### THE USE OF CREOLIUM.

Creolium is a comparatively new disinfectant and germicide, for medical, surgical and general domestic use. It is said to be ten times more potent than any remedial agent known to medical science. All germ diseases work destruction through a process of fermentation embracing acid conditions, favoring the formation of germ life. Any germicide that would destroy all germ life, would also destroy the white blood cells, which are living organisms necessary to animal and human life, being builders and scavengers of the body.

Creolium destroys only those known as disease germs, by destroying the conditions necessary for their existence, and at the same time sets up a condition favorable for the existence of the white blood cells, neutralizing the virus of the bad germs.

As a disinfectant, the fumes of creolium are claimed to be ten times more potent than any other compound known to chemistry. It is a dark brown liquid, forming a milk white emulsion with water, with a not unpleasant odor. Its uses are manifold and I will append a few of them, thus proving that it is a "handy article to have around."

For uric acid. This is the product of a germ. When it crystalizes and clogs the small membranes of the extremities it is called gout. When the bones and muscles are involved it is called rheumatism, and when the lungs and bronchial tubes are affected it is called asthma. Creolium administered in doses of from 5 to 10 drops daily, at meal time, dissolves and destroys these harmful crystals and germs. For Catarrh either spray the nasal passages, or inject into the bladder as the case may be, one-half teaspoonful of Creolium to a glass of warm water which will bring prompt relief. For Typhoid in man, or hog, or cholera in animals,-which are almost identical, Creolium in 5 to 10 drop doses should be given every four hours, until the disease is under control. For swine plague, anthrax, etc., the dose may be one ounce, with the addition of inoculating it under the skin to reach the circulation quicker.

For dandruff, rub one ounce of undiluted Creolium into the scalp, allowing it to remain an hour, then wash off with lukewarm water, and the worst case of dandruff will yield to one treatment. Baldness is treated the same way, rubbing the scalp briskly every day for 15 to 20 minutes, and a new crop of hair will follow unless the gland at the root of the hair follicle is entirely destroyed.

For snake and insect bites, use pure and undiluted as an application and in desperate cases take inwardly, and inoculate under the skin as well. For diseases of the bone, necrosis, lumpy jaw, etc., creolium is the best known specific. For wounds, cuts and ulcers, cancerous growths, and old sores, Creolium should be applied freely, full strength, washing it off after a few hours, causing prompt healing where all other remedies have failed. For reducing inflammation, use one part Creolium to 100 parts water, saturate a cloth and apply freely.

As an antiseptic, disinfectant and deodorizer, scrubbing floors, urinals and slop pails, use Creolium one part to water 100 parts. For lice and vermin, Creolium used in the proportion of one part Creolium to 50 parts wter, will destroy all and any kind of lice and vermin on horses, cattle, sheep, swine and poultry, or bedbugs and other vermin that infest a dwelling.

If rubbed upon the hair of animals, it will keep flies away in the proportion of one part Creolium to 100 parts water. For worms and intestinal parasites, give doses of from 5 to 10 drops for human and one-half to one ounce for animals. For diarrhoea in man or beast, Creolium has no equal in doses as above. For flatulent colic it is likewise effectual. For skin diseases, mange, itch, scabs, it may be used pure or diluted with 25 parts of very hot water.

It is in the poultry yard where Creolium shines the brightest however, as it kills lice and mites, in solution with 50 parts water, thus making a cheap spray, or dip for the birds and houses, and the yards may also be sprinkled with a solution of one part Creolium to 100 parts water. For cholera, use one part Creolium to 200 parts water for drinking purposes, and for roup and swell head bathe with one part Creolium with 25 parts water, warm; dry thoroughly, then apply a salve made of one teaspoonful Creolium, one teaspoon sulphur and one tablespoonful vaseline, repeating twice a day.

For the dip for lice on poultry use one part Creolium to 50 parts water, and plunge heads and all under, rubbing it well through the feathers.

For plants, spray with one part Creolium to 100 parts water for green fly, potato bugs, cabbage worms, etc. No poultry plant is complete without a supply of this excellent cheap and handy article.—Mrs. Frank Metcalf.

---

We know of nothing better on which to scatter soft or moistened food for the young chicks than a smooth, clean board, laid on the ground. It is much better than a trough, is easier to keep clean and is easily supplied. It should be scalded every day or two and set in the sun to dry. When not in use, it should be kept in a clean place.

---

It is far better to dispose of young stock early in the season, when one can obtain 25 or 30 cents per pound and when the chick weighs about 2½ pounds, than to sell in the fall at six or seven cents per pound, when the fowl weighs five or six pounds after feeding all this time.

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Labor is not capital. We all know how much more zest we put into our work when we see a good prospect of success. Let us remember that labor may be mental as well as physical. We must have some aptness for the business.

---

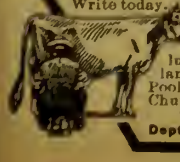
When a hen doesn't respond properly to good feeding and good care, it is a pretty good sign that she isn't "cut out" for profit in the poultry yard.


**No Flies at MILKING TIME!**

Don't blame the cow for switching her tail so furiously. Don't throw the milk-stool at her because she "side-steps" and upsets milk pail. The critter can't help it when flies are constantly prodding her hide for warm red blood.

**Conkey's Fly Knocker Knocks Flies**

Spray your cows with Conkey's Fly knocker and the flies won't come near. It drives them away. The greatest discovery of the age. Sold under a positive guarantee. Prices—qt. 35c; ½ gal. 60c; gal. $1. Agents wanted everywhere. Write today.



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Molting time is the best time in the entire year to dip your fowls.

Kill all the lice and vermin and let Biddy start in the new year in a good healthy condition in her new coat.

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It is Anti-Toxin and Non-Poisonous.

The PACIFIC POULTRY COMPANY has used CREOLIUM and nothing else for years as a spray for the houses and a dip for the fowls, to keep their thousands of birds clean and healthy. What more testimonial or guarantee could you ask?

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**are sole agents in Los Angeles County for this product, and it is for sale at their plant in Inglewood, also at their Los Angeles Office, 416 Chamber of Commerce Bldg.**

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# No 3 Condition Powders for Poultry?

A first-class tonic and conditioner like ***Coulson's No. 3 Condition Powder*** is of great benefit to the chickens, especially when used at this time of year.

***Coulson's No. 3 Condition Powders*** will prevent diseases, by keeping the flock in a thoroughly healthy condition. By the same means it will keep them laying longer into the molt, and their healthy condition will enable them to molt quickly and commence laying at an early date. As it contains no injurious stimulant, it can be used with perfect safety at all times and for this reason is fed in large quantities by numerous poultrymen.

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**Petaluma, California**

**Germain Seed Co., Los Angeles, Distributing Agents for So. California**

**Testimonial**

Coulson Co., Petaluma, Cal. Petaluma, Cal., July 21, 1909.
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# Irrigation and Forestry

### STATE CONSERVATION COMMISSION.

THE Oakland Enquirer indulges in the following rather drastic criticism of the inactivity of the California conservation commission:

Almost everybody in this State is or ought to be interested in the national movement to save the forests and preserve the waterways. Every Californian who is patriotic enough to wish to see California contlnue to be prosperous is willing to see our pines and redwoods, our rivers and streams so conserved that they will serve future generations as well as they are serving us. Your children and their children ought to have a legacy of natural resources left to them just as certainly as they will have a legacy of money and other property. Many of us, in fact, have no other legacy than the forests and streams—the property of all the people—to leave to our children. "Silver and gold have I none to leave to my children" too many Californians must confess. But even the most poverty-stricken citizen of the golden state has a citizen's proprietary interest in the trees and the water upon the existence of which our state's present prosperity so greatly depends and upon the conservation of which her future so absolutely hangs. It is not alone the lumber and timber that our forests supply that makes them necessary to us and will make them necessary to the Californians of the future. This state needs now, and will need much more in the future, water for irrigation and the development of light, heat and power. If the forests that lie at the head waters of our streams are not conserved, those streams will be torrents for three or four months in the year and waterless the remaining months.

At the present rate at which those forests are disappearing, fifty years from now there will be no California forests. Your children will have "hard sledding" to get a living in California then, because you and the rest of us apparently haven't sense enough to arrange things so that our common property, the natural resources of California, shall not be taken from us and kept from being bequeathed to our children. You remember, of course, the conference of governors, which, in response to the invitation of former President Roosevelt, met last year in the White House at Washington to consider ways and means for the conservation of the country. There were something like forty governors present at that conference. Most of the governors who were there went home and appointed state conservation commissions to work in harmony with the National Conservation Commission, also appointed by Roosevelt, and do what they could to save the forests, streams and other natural resources of the country from destructlon and annihilation. Governor Gillett has appointed such a commission for California. But, up to date, it has been conspicuous by its silence and its "innocuous desuetude." In fact, the commission has not, so far as anybody appears to know, ever had a meeting—and, in the meantlme, the forests of California are being cut, slashed and burned just as prodigally as ever, and even the heritage of your children is rapidly disappearing.

The membership of this commission as originally named was as follows: R. A. Briggs of San Francisco, president of the state board of trade, chairman; F. H. Short of Fresno; Assemblyman Grove L. Johnson of Sacramento; Mrs. Lovell White of San Francisco; W. E. Smythe of San Diego; Francis Cuttle of Riverside; F. Q. Storey, president of the Fruit Exchange, and J. C. Needham, member of congress from the sixth district.

That seems like a pretty good commission, but it is a fact, as the Enquirer charges, that the body has never had a single meeting. We would, however, ask our Oakland contemporary to refrain from including the Riverside member of the commission, Francis Cuttle, in its criticisms of lnactivity. Mr. Cuttle is chairman of that pioneer conservation organization, the Tri-counties Reforestation committee, and is accustomed to doing things. He tried several times to stir the state commission up to some sort of display of life and activity, and failing in this, he sent in his resignation to Governor Gillett. In his letter to the governor he said that he did not care to hold membership in an organization that existed in name only when there seemed to be a large opportunity for usefulness if it would "get busy."

So far as we know no appointment has yet been made in place of Mr. Cuttle, but Riverside washes her hands of the whole matter and asks to be excused when the newspapers take occasion to find fault.—Riverside Press.

### FOREST PROTECTS WATERSHEDS.

From the report of the Inland Waterways Commission we take the following regarding the value of reforesting:

"The area of National forests protecting the Sacramento Rlver watersheds amounts to 5,567,094 acres, and that protecting the Sacramento River basin to 5.023,014 acres. A very largé portion, probably 50 per cent, of this forest, as well as of other forests on their headwaters has been opened by repeated fires, and the naturally poor humus has been destroyed or further depleted. The accumulation of a good humus in these forests is imperative and the extension of the protective cover, either of dense chaparral or of forest, over the foothlll land is advisable. Reforesting these watersheds not only reduces the severity of the floods to which these mountain torrents are subject, but frequently converts a stream with intermittent flow into a perennial one or greatly augments the dry-season flow of those subject to the violent fluctuations.

"There is urgent necessity also for planting the banks of small streams to lessen the coustant erosion which is taking place."

The Commlssion quotes some freight rates from San Francisco to Inland California points, with water transportation. These are somewhat meager, although quite complete for such points as Sacramento, Stockton, and Napa. The rate per 100 pounds of freight of the first class from San Francisco to Sacramento by rail for the distance of ninety miles is quoted at 26 cents per 100 pounds as against 22 cents per 100 pounds by water. Figures on other classes of freight are also quoted to show the influence of water communication upon the rates that Sacramento has to pay.

The Commission emphasizes its view that "the capacity of these waters not only for navigation, but for other uses renders imperative the necessity for their control and utilization as an asset of almost unlimited value."

And the Commission, speaking of a class of rivers of which the Sacramento is one, declares that they "should be further investigated with a view to the systematic development of interstate commerce in coordination with all other uses of waters and benefits to be derived from them."


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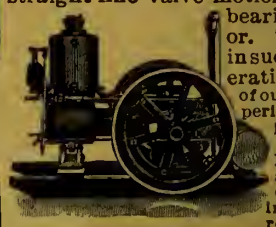

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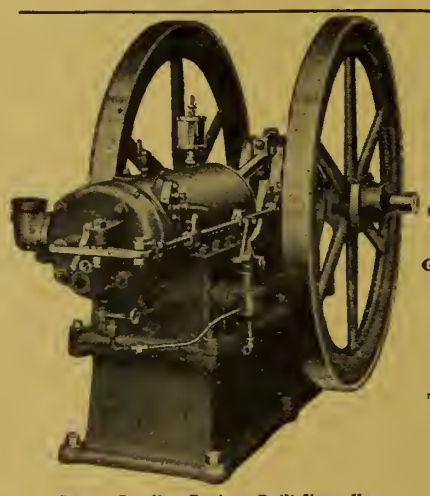

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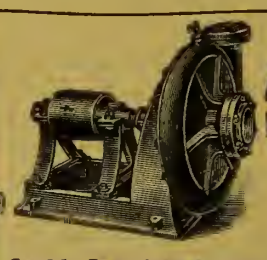

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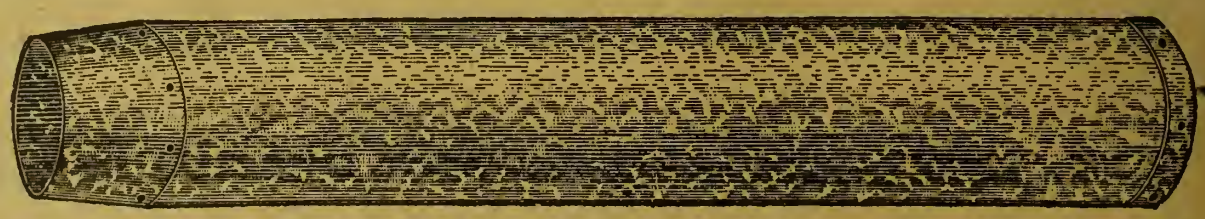

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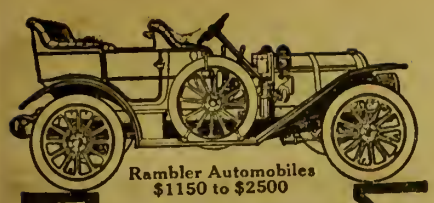

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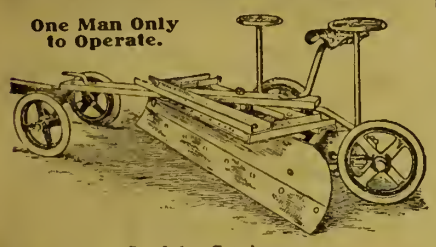

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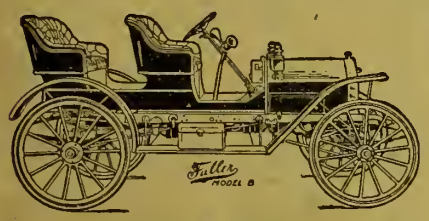

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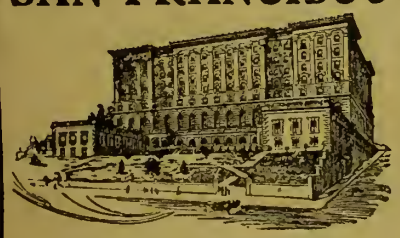

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# General Agriculture

## INOCULATING ALFALFA SOILS

A NUMBER of the experiment stations are still trying to ascertain what the organisms, found on the roots of alfalfa have to do with the health and thrift of the plant. The New York Station has been carrying on extensive experiments in co-operation with farmers, and the result of these experiments may be thus summarized:

"In nearly every case where inoculation was tested, the roots of plants on both check plats and inoculated plats were carefully examined for the nodules associated with nitrogen-gathering bacteria. Surprising to say, such nodules were found on some plants on 95 per cent of the check plats, indicating a much more general distribution of the bacteria than was supposed. The source of these scattered bacteria is unknown—possibly they were introduced on the alfalfa seed, though previous experiments of the station, indicate that this is improbable; more likely these scattered germs have been associated with other legumes and have developed an adaptability to alfalfa. Their presence helps to explain the many cases of success following second or third attempts to grow alfalfa on the same soil. Bacteria multiply with great rapidity under favorable conditions, so that the few naturally present may in a season or two increase sufficiently to inoculate well a new alfalfa crop following one or more sowings with only scattered thrifty plants.

But on the check plats the number of plants naturally inoculated was rarely great enough to insure a good crop of hay. Of one hundred and three such un-inoculated plats, only twenty-five bore, the second year, crops which satisfied their owners; that is, crops that gave fair returns as compared with other crops on the same farms. The crop was a failure on seventy-eight plats, or more than three-fourths of all. On plats adjoining these checks, inoculated by working into the soil from 200 to 300 pounds to the acre of soil from the station alfalfa field, sixty-six crops were counted successes and only thirty-seven failures. In other words, on soils where less than one-fourth of the crops succeeded without inoculation, nearly two-thirds of them did so when provided with the proper bacteria in sufficient numbers, a gain from inoculation of more than 40 per cent in the chance for success with alfalfa.

While we have never been very enthusiastic over the practice of adding an inoculated soil to alfalfa fields, yet these results would seem to indicate that there is some virtue in the practice. This we do know, however, that if a soil is congenial to begin with an application of farm yard manure will do more to contribute to a thrifty growth of alfalfa than sprinkling over the surface 200 or 300 pounds of inoculated soil without adding manure. This has been tried over and over again, and it has been found in nearly every instance to do the work.

One of the best fields of alfalfa that has ever passed under our observation is now growing on the farm of W. H. Curtice, near Independence, Mo. Alfalfa had never been grown on this land and it would seem as though the method employed in preparing the soil had in this case everything to do with getting a stand. Stubble land in this case was plowed in the fall after applying a good coating of farm yard manure. In the spring it was thoroughly cultivated and a crop of millet sown. The millet was harvested early in August and another dressing of farm yard manure followed. This was worked in by surface-cutting implements such as the spring tooth harrow and the disk. Bear in mind that the soil was not plowed after the millet crop was removed, the theory of Mr. Curtice being that this would only bring to the surface weed seeds that would later interfere with the alfalfa. After bringing about the conditions of an ideal seed bed by surface tillage, the alfalfa was sown in the fore part of September, with the result that it is an ideal stand. If conditions are at all favorable in 1909 this alfalfa will unquestionably yield anywhere from seven to ten tons per acre. It should be said that there was not visible at the time of cutting the first crop this year a solitary weed. It should also be said that thick seeding was practiced in this case, 36 pounds of seed being used per acre.

While we are glad to give in condensed form the results of experiments conducted by the New York Station, yet we have given the experience on the farm of Mr. Curtice in order to indicate what can be accomplished by sensible cultivation combined with the judicious application of farm yard manure.—Des Moines Homestead.

Corn after Cantaloupes in Calexico.

Tulare has already marketed more than $6000 worth of honey.


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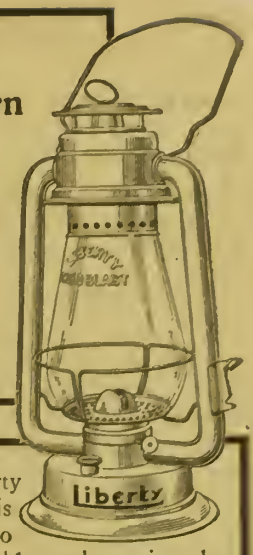

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# Queries and Replies

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### Weevils in Beans.

How may I keep weevils from getting into my beans? Do they come in the blossoms or after the bean matures?—J. W. F., Gardena.

The egg of the beetle which is the parent of the weevil is deposited on, or sometimes inserted into, the pod of the growing bean, or possibly in the pod after it is partly open; also the egg may be deposited on the dried beans after they have been harvested. The egg hatches in from five to twenty-five days according to the weather, when the young burrows into the beans and there undergoes its transformation, emerging later as a mature bettle. This stage of the insect's life may last from ten to forty days. Unless controlled, the weevil may become sufficiently numerous to ruin the crop, either in the field or in the bin after harvesting. There is no satisfactory method of handling it in the field; it must be destroyed in the warehouse or bin. The method of destroying is to place carbon bisulphide over the bins in an open dish, and the room or bin should be tightly closed so as to confine the fumes over night. Care must be used not to approach the place with a light as an explosion may result

### Moist Pasture.

Will it injure horses to stand on moist pasture? Some of it is covered with water so that the stock must wade in it.—G. E. C., Dinuba.

If the water is stagnant or heavily impregnated with alkali it is not good for animals to stand in it. We have clear creek water in many of our pastures that the stock enjoy being in greatly. There is danger of water carrying diseases. We lost a number of hogs last winter from infectious pneumonia carried by dead hogs being thrown into the creek.—M. E. S.

### Dodder.

I enclose alfalfa stem with parasite growing on it. I have cut the alfalfa close to the ground and stripped the stubble of what little of the parasite remained. Please give name and means of treatment.—A. H., Lankershim.

The parasite which you send is nothing more nor less than the common dodder (cuscuta epithymum). It is also sometimes called love vine or wishing hair. You made a mistake in cutting and carrying away the infested alfalfa. It should have been burnt on the ground where it grew. The seed is very similar to the alfalfa but much smaller and requires proper soil conditions to start it. After this first growth, however, it attaches itself to the host plant, which may be alfalfa, or in the mountains the under brush. It then proceeds to take its nourishment from the host and blooms and ripens its seed. These drop to the ground and repeat the life cycle

The only sure way of keeping alfalfa fields free from it is first; to use great caution in securing seed at planting time; second to see that the irrigation water is not contaminated with the seed. If it succeeds in gaining a foothold, we would suggest the infested spot be covered with straw and burned so that you entirely destroy it. This will probably kill the alfalfa on that spot but if clean seed is used for re-planting the spot, it is better to do that than to permit the dodder to spread.

### Pruning Eucalypts.

I have 100 small gum trees planted last spring set five by ten feet apart. Should I prune off the lower limbs, and should I stake? I also have peach trees two years old. Should I prune off the lower hanging limbs?—G. E. C., Dinuba, Cal.

No. Do not cut the limbs from young eucalypts as they become top-heavy when treated in this way. They will drop these limbs as fast as they do not need them. Cutting makes a dead place in the trunk of the tree, while if the growing inner bark pinches them off naturally, the wood tissue is not exposed to the air. If the trees have already been trimmed and are in straight lines, they may be held up cheaply by using six foot stakes at end of rows and stretching two wires, one three feet from the ground and the other at the top of the stakes and then tying the trees to them. I should leave the limbs that are of any size on the peach trees until after the heat of summer is over. It will not hurt to cut off the ends to check further growth. The danger of sunburn is great on the peach and it brings with it the borers that work in the dead tissue of the trees. It will do no harm now to have the limbs on the ground unless it opens the head so much that the trunks are burning. In this case the trunks should be protected with wrappers to keep off the sun The only limbs at the ground that should be removed are suckers from the root and these must be taken off as fast as they appear or they weaken the sap rising to the bud of the variety that is in bearing. Next season prune the trees enough to stiffen them up, and if the growth has been excessive and weak they should be more heavily pruned than if it had been stronger.—M. E. S.

### Popcorn.

Please tell me how popcorn may be harvested and cured. Should it dry on the stalks? I want to use stalks for fodder.—Subscriber, Pasadena.

Popcorn should be handled in the same way as other corn. It should be thoroughly ripened before it is harvested and stacked up in shocks to cure before husking it. After husking, it may be stored in a well ventilated place, protected, of course, from mice and other vermin. The stalks make good fodder.

### Pests Of Alfalfa.

I send in other package the following insect specimens:

1. Bee-like insect appearing in our alfalfa fields. Early in the morning thousands of them flit about over the alfalfa. They burrow in the gound and seem to subslst on locusts. Do you think them detrimental to alfalfa?

2. A worm that is stripping off the leaves.

3. Specimen presumably of embryo butterfly.

4. Butterfly appearing simultaneously with the worm. Thousands of them flutter daily over the fields.

What means are there of combatting these pests? Would you advise introduction of lady birds? Would turkeys help to exterminate the butterfly?—W. O. S., Coachella.

These specimens and the letter were referred to S. A. Pease of the Horticultural Commission of San Bernardino county. Mr. Pease writes: "All the specimens from Coachella arrived in very poor condition, yet some of them could be identified satisfactorily.

No. 1 referred to as a bee-like insect belongs to the family Bembecidae. It is the best known representative of that family, being Sphecius speciosus which preys upon Cicadas, stinging so as to render them helpless and carrying them off to their nests as provision for their young. It digs burrows in the earth sometimes two feet or more in depth, and provides each nest with a Cicada or locust.

No. 4 is a butterfly known as Colias Keewaydin, the larvae of which feed on alfalfa.

No. 3 is evidently the chrysalis or pupa of the above named butterfly.

No. 2 is in such a dried up condition as to be past positive identification but is possibly the larva of the above.

Probably one of the most difficult problems we have is to exterminate any biting insect on alfalfa, as the poison necessary to kill the worm would make the alfalfa itself unfit for feed. The only remedy which I know of is to use bran arsenic bait and that is not very effective."

We think the suggestion for the use of turkeys a good one Possibly it would keep the pests down to a certain extent, but we surmise that it would take a large drove of turkeys to effect a cure in some sections.

### Alfalfa Seeding.

What is the average yield of alfalfa seed per year? What is the average time required to mature the crop? Can a crop be practically threshed by hand, and are there cheap hand machines in the market?


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**Chicks, 10c and Up**

About that time we will be ready to ship all kinds of chicks we list in our catalog. Place your orders now if you wish to get chicks out of that hatch. Fall chicks make big money, and are easily raised. Send for booklet today, and order as soon as possible, so as to be sure to get them. We will sell

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Oregon's crop of prunes is estimated at 40,000,000 pounds this year.

There is in this locality a worm that attacks the alfalfa in hot seasons and eats the leaves. Will stalks thus denuded yield good seed?—W. O. S., Coachella.

It is hard to give the average yield. Some have claimed as high as 600 or 700 pounds per acre, but that is extreme. 200 to 400 pounds is probably nearer to what the ordinary producer will secure. The time required to ripen the seed will be as long as required for two crops of hay. However, this period will vary on different soils and under different climatic conditions. We have never heard of a hand machine, and alfalfa requires much power to thresh, having to be rubbed instead of beaten out as is the case with wheat, we imagine a hand machine would not be satisfactory.

We cannot say positively, but would judge that the worm of which you speak is the larva of the yellow butterfly flitting over the fields so thickly, and suppose that the plant's weakened by its attacks would be affected as to quality and quantity of yield. The heat of your section may also be a factor in alfalfa seed production which experiment only can determine.

### Bleaching Figs.

Is there any way in which dried figs can be bleached after they have been cured?—J. J. H., Clovis.

We do not believe the practice is generally followed of sulphuring after curing and do not believe it would really be advisable for best results. Of course it goes without saying that the dark figs are never sulphured before or after curing, unless necessary to prevent their souring on the trays. The white fig may be sulphured lightly for fifteen, or not to exceed thirty minutes. Some have placed trays of figs in sulphur house over night, but this certainly is not beneficial. Do not let the fruit dry too hard. Place in sweat boxes for several days, and when ready to pack, dip in boiling salty water, or, as some prefer, in a thin boiling syrup. This leaves them in a more pliable condition so that they pack in better shape, and it also gives a better color. In sulphuring do not place on trays more than one deep, and if the fruit is sweet enough to dry without souring, we should greatly prefer unsulphured fruit.

### Johnson Grass.

I send sample of grass which is infesting my orchard. Is it harmful? I find that my fowls eat the young growth. Is Bermuda grass harmful in a citrus orchard? Would you advise planting alfalfa between rows of sickly lemon trees? The soil is good, but gophers, lack of water or this grass have nearly ruined the orchard through the neglect of past years.—G. H. M., San Diego.

The sample of grass sent is insufficient for us to determine what it is, but we should judge it is Johnson grass, one of the serious pests of the state. It, together with bermuda is certainly harmful to citrus orchards, and they should be given culture such as would prevent growth of these or other weed pests. As to the lemon orchard, we would suggest applications of manure or superphosphates followed by the planting in October, or possibly September, of vetches, peas, or fenugreek. Then give very deep plowing during February or early March to put these crops under. If any Johnson grass, Bermuda, or other pests remain, we would give thorough culture until they are destroyed. This, with plenty of water and handling soil so that no plowsole or hardpan will appear, will put the trees in bearing condition unless they have been so badly neglected as to be past saving. Only personal inspection could determine that fact.

### Failed In Milk.

My heifer freshened three weeks ago and gave at first a good flow of milk but is now giving only about two quarts a day She has the same feed as last year and seems perfectly healthy.—C. C., Perris.

These cases are not always easily explained. She may have taken cold or she may not have been milked out clean every time. Heifers are often slow milkers and it pays to rest a few minutes after the last of the milk seems to have been drawn and then try again for the last few drops. Rubbing and working the udder gently to secure the last drops will help. Sometimes a little feed given to a heifer while she is being milked distracts her attention and the milk comes more freely. Gentleness and clean milking will probably overcome this trouble.—M. E. S.

### Butter Slow To Come.

I churn twice a week the cream of one Jersey cow, in a dash churn at a temperature of from 58 degrees to 65 degrees. It takes from one to two hours to get butter and it sometimes will not gather when it does come. What causes the trouble?—Inquirer, Riverside.

Ripen the cream more fully by raising the temperature of the cream twenty-four hours before churning time, to about 90 degrees. This can be quickly done by standing the jar in hot water and stirring the cream, or it may be done by stirring the cream with clean glass bottles filled with hot water. Cover the cream and let it keep warm for an hour and then stand in a cool place, still covered, until churning time. Stir it a few times so that it will ripen equally. If the temperature at churning time could be brought down to 55 it would help the butter texture. Strain the cream into the churn to remove particles of curds and the butter will be good. Add no cream to the ripening cream after it has been heated.—M. E. S.

# Legal Queries

**Edw. L. Payne, attorney, 301-304 Douglas Building, Los Angeles, will answer legal queries in this department.**

**Immediate mail replies cannot be given except where fee to Mr. Payne is paid. When replies are wished in Cultivator address query to 115½ N. Broadway, Los Angeles.**

### Wife's Share of Estate.

What interest does the wife have in personal property and real estate when there are no children, no will being left? Does she have control at husband's death, or does the estate have to go through the courts, and at what expense to her?—Inquirer, Tulare Co.

If the property is the separate property of the deceased husband, the estate goes half to the surviving wife and the other half to the decedent's father and mother in equal shares, and if either is dead, the whole of said half goes to the other: If there is no father or mother, then half goes in equal shares to the brothers and sisters of the decedent, and to the children or grand children of any deceased brother or sister by right of representation, that is to say, the children or grand children of any deceased brother or sister would take the share which would have gone to such deceased brother or sister.

If the property is community property, half of the community property goes to the surviving wife, and the other half goes to the descendants of the deceased husband equally, if such descendants are in the same degree of kindred to the decedent, otherwise, according to the right of representation; and in the absence of such descendants, goes in the same manner as the separate property of the husband.

It is necessary that the estate be administered in the courts, and the expense will depend largely upon the value of the property and the amount of work that has to be done in order to probate the estate. This inquirer had better consult an attorney living in the county where the deceased died or in which he left property.—E. L. P.

### Pumping Agreement.

A and B own a well. A sells his half interest to B, retaining two inches of water to be pumped to him at intervals in each month, as agreed, at the actual cost of pumping the water. When the bill is presented for the month's pumping it includes a proportionate charge on A for sand pumping the well at its completion two months ago. Is this a just charge? B says without the sand pumping no water could be had. A holds it is a charge on the construction and repair of the well and is not a charge on the actual cost of pumping water.—Subscriber, Claremont.

Assuming the agreement to be exactly as set out in the inquiry, the

(Coneinued on Page 143.)

**Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

# Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.


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FORTUNES IN SUGAR—STOCK FOR sale in a new sugar cane plantation. Small monthly payments will secure for you an interst in this great enterprise, that will pay you an annual income for life. Write for booklet, LOS HORCONES PLANTATION CO., 724 Grosse Building, Los Angeles, Cal.

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FOR SALE CHEAP—A SMALL FRUIT and berry farm located in the mining town of Stent, Tuolumne Co., Cal. Two good dwellings, three wells, one new wind mill and tank on the premises. Also accessible to ditch water. A good home market. For particulars call on or address MRS. J. R. RAGLE, Stent, Tuolumne Co., Cal.

FOR SALE—PALOMITAS VINEYARD 194 acres; 106 planted to choice Emperor, Malaga and Muscat vines, 3 to 5 years old. Part or all. Half cash, balance on easy terms. MRS. M. K. SHERMAN, Fresno, Cal.

I MAKE A SPECIALTY OF ORANGE and alfalfa ranches and exchanges. 826 Main St., Room 9, Riverside, Cal. N. R. BELL.

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FOR SALE—SECOND HAND WINDmills, tanks, pumps, engines, hay rake, cultivator, mower, wood sawing outfit, spraying outfit, light wagons, anything a rancher wants secondhand. DEMMITT CO., 120 N. Main St., upstairs, Los Angeles, Cal.

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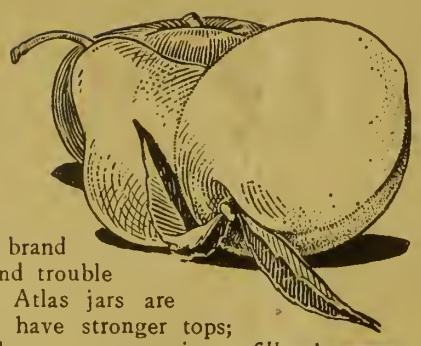

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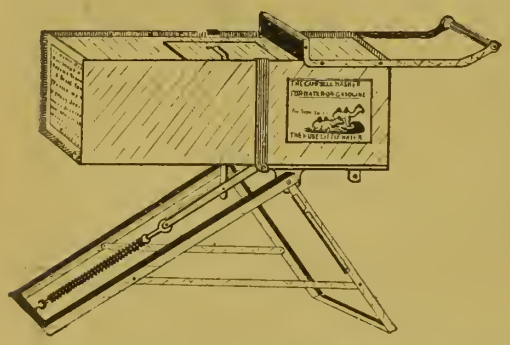

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# Household Department

## WEDDING SUPERSTITIONS.

Married in January's hoar and rime,
Widowed you'll be before your prime.

Married in February's sleety weather,
Life you'll tread in tune together.

Married when March winds shrill and roar,
Your home will lie on a foreign shore.

Married 'neath April's changeful skies,
A checkered path before you lies.

Married when bees o'er May blossoms flit,
Strangers around your board will sit.

Married in month of roses—June—
Life will be one long honeymoon.

Married in July, with flowers ablaze,
Bitter-sweet mem'ries in after days.

Married in August's heat and drowse,
Lover and friend in your chosen spouse.

Married in golden September's glow,
Smooth and serene your life will go.

Married when leaves in October thin,
Toil and hardship for you begin.

Married in veils of November mist,
Fortune your weding ring has kissed.

Married in days of December cheer,
Love's star shines brighter from year to year.

—From Old Rhyme.

## DINING OUT.

"NOW," asked Mrs. Townsend, when they were in their places at the restaurant table, "what shall I order for luncheon,"

"Let me see the bill of fare," Janet said, reaching for it.

"In a minute," Jack answered; "I just want to see what kinds of soup there are."

"I don't want soup," said Janet.

"Neither do I," her mother added.

"But I'd like some of the mulligatawny. What's that like?"

"If you take soup, we'll have to sit doing nothing while you eat yours," Janet objected. "And, besides, one portion is more than you can eat, and it will be wasted."

"It won't save it to eat it any more than to leave it after it is paid for," was Jack's answer.

"You don't have soup usually at home," his mother remarked.

"That's why I want it. What's the use of going to a restaurant if you just eat what you get at home?"

"You're not here for amusement but to get some food." Janet observed.

"All right," Jack agreed; "then you can just eat oatmeal with bread and butter. That'll be cheap and filling."

Janet began to look cross.

"Here," Mrs. Townsend said, "let me take the bill of fare. I will order the luncheon." After a moment she looked up. "Suppose, Janet, you and I have some tea and fancy cakes, and for Jack I will order—some baked chicken pie."

"I don't like chicken pie. I'd rather have mock turtle soup and chicken salad and ice cream."

"That's too much," his mother replied, "and it's too expensive."

"Well, then," Jack grumbled, "if I can't have what I want, I won't take anything!"

"That's just like you!" Janet exclaimed. "You just go and spoil everything!"

"Well," Jack muttered. "I'm not going to guzzle tea and crumble dried up cake. I'd rather take chewing gum!"

Mrs. Townsend put down the bill of fare in despair.

"I do wish you wouldn't be so troublesome! I'm sure I can't suit you all without ordering a lot of things we don't want. And it's wasting money, too. All we need is a light luncheon so that you will not get too hungry before your dinner." She picked up the bill once more. "Let me see. What do you say to a nice salad with French dressing and some rolls?"

Don't like leaves," Jack muttered, while Janet looked equally unhappy, and asked: "Can't we have some dessert?"

"Dessert?" echoed Mrs. Townsend. "Yes, we could. Suppose we say rice pudding?"

This was the last straw. Jack went down to the depths of despair, and Janet's lower lip began to tremble.

"Well, children," their mother said, "shall I give the order?"

"I'd rather go without anything," was Jack's reply, and he turned indifferently from the table.

"So would I," Janet agreed.

"Have you ordered?" inquired a waiter, approaching briskly.

"Not yet," said Mrs. Townsend. "I'll let you know in just a moment. Come, children, what will you have?"

"You won't let us have what we want," Jack answered coldly.

"I'm sure I don't know what to do. You suggest ridiculous things and won't say yes to anything else."

"Women don't know what men like for lunch," Jack observed grandly.

"Oh, very well," Mrs. Townsend replied. "We can't wait much longer. Your father wished us to be prompt, so as to be in time for the matinee. Now he will be— Here he comes. I'm glad. If you don't like me to order, you can just ask your father."

Mr. Townsend came in briskly, smiling and gay. He made his way to the table, and greeted them affectionately. Then he noted the frost in the air.

"What's the matter?" he inquired. "Luncheon not served? Where's your waiter?"

"We couldn't decide what to have," said Mrs. Townsend. "Janet wanted some ice cream—"

"I didn't say so," Janet interrupted.

"And Jack chose mulligatawny soup—"

"Mock turtle," Jack corrected. "I only asked what mulligatawny—"

"That's neither here nor there," his father remarked, hastily consulting his watch. "And what did you want, my dear?"

"Only a cup of tea," Mrs. Townsend answered, "and some cake."

"That'll never do," her husband said, frowning and shaking his head. Then rapping sharply on the table, he brought the waiter on the run. "Here, waiter," he said, "bring two portions roast beef rare, with gravy, mashed potatoes, and have them served quick as you can. We're in a hurry!"

"Yes, sah," replied the waiter, and disappeared with a napkin trailing in the breeze.

"The longer you wait the less you can tell what you want. Roast beef is always in season, makes good red

blood, everybody likes it, and after all, there's nothing better. We've got just 20 minutes. Let's talk of something else."

And so they did.—Universal Magazine.

## RECIPES.

### Strawberries in Jelly.

While strawberries are expensive a very pretty desert and a toothsome one as well can be prepared by making a mild lemon jelly. Use a half box of gelatine dissolved in a scant cup of cold water, boil together, shave the lemon rind thin, using none of the white, steep with a small piece of stick cinnamon for ten minutes in a pint of boiling water, then add the soaked gelatine, a cup of sugar, half cup of lemon juice and when the gelatine is dissolved, strain. When it begins to thicken pour a little into a sherbet cup and place on it a couple of firm strawberries that have been wiped clean. As this hardens, add more of the jelly and berries until the cup is full, having it even on top. The berries may be served in the glasses with whipped cream piled on top, or they may be placed into moulds and the moulds turned out on a platter with whipped cream piled about them, or they may be served on individual plates with whipped cream, or plain cream may be used if preferred.

### Cherry Conserve.

Two pounds of stoned table raisins. Three pounds of red sour cherries. Three pints currant juice. Four oranges. Four pounds of sugar. Steam the raisins twenty minutes and then add the cherries sugar, oranges and currant juice. After it commences to boil, cook twenty minutes. Use the rind of one orange chopped fine.

### Lemon Pie.

One lemon, grated rind and juice. One cup of sugar One teaspoon of flour mixed in sugar. Four eggs well beaten. One-half teacup of sweet milk. One teaspoon of butter. Bake with one crust.

### The Famous Kumiss.

Kumiss is a valuable beverage for use in the sick-room Heat one quart of milk to seventy-five degrees Fahrenheit, add one and one-half tablespoonfuls of sugar, one and one-fourth of a yeast-cake dissolved in one tablespoonful of lukewarm water. Fill sterilized bottles to within one and one-half inches of the top. Cork, and shake. Place the bottles inverted, where they may remain at a temperature of seventy degrees Fahrenheit for ten hours; then put in the ice-box or a cold place, and let stand forty-eight hours, shaking occasionally, to prevent the cream from clogging the mouth of the bottle. It is refreshing and nourishing.—Woman's Home Companion for August.

### A Cocoa Egg-Nog.

A cocoa egg-nog is quickly made. Beat the white of one egg until stiff, and add gradually, while beating constantly, one teaspoonful of sugar, one teaspoonful of breakfast cocoa and a few grains of salt. Add to one half the mixture, while beating constantly, three-fourths of a cupful of cold milk. Turn into a glass and pile the remaining mixture on top.—Woman's Home Companion for August.

## MENDING SUGGESTIONS.

Until it has been tried, no one can realize what a lot of time and trouble can be saved by doing the family mending on the sewing machine.

Here is a good suggestion for mending overalls. Baste the patch firmly to the outside, turning in the edge as required, and stitch. Then turn the garment wrong side out, and stitch close to the edge of the patch also. By working slowly one can sew long patches over the knees of the overalls, and they will be stronger and look much better than when sewed by hand.

To refoot a stocking, cut from an old stocking leg a triangular piece about eleven inches long and six inches wide on one end, tapering it to a point. Cut the worn part from the stocking on a slant, then stitch the triangular piece and sew the straight edge together to form the heel. In this way no seams will come where they will hurt the foot. By varying the size of the triangular piece, stockings may be cut over to fit little feet, thus saving an item which means a great deal when there are several pairs of little feet to keep warm and dry.

## GOOD MEMORY.

An old colored woman down in Alabama was reported to be of great age, and was extremely proud of the distinction. The proprietor of a museum, on hearing of her, sent one of his agents to make an investigation, as she would be a valuable acquisition to his museum. The agent plied her with questions regarding her age. He asked her,

"Auntie, do you remember George Washington?"

"Does I remember George Washington? Laws a massy, mistah, I reckon I does, for I done nussed him when he was a chile."

"Well, I suppose you remember the Revolutionary war?"

"Yes, indeed, I does honey. I stood dar lots of times an' seen de bullets flyin' round as thick as hailstones."

"Well, auntie, how about the fall of the Roman Empire? Do you recollect anything about that?"

"De fact is, honey, I was pretty young about dat time, but I does 'member, now you speaks ob it, dat I hear de white folks tell' bout hearing som'pin' drop 'bout dat time."—Harper's Weekly.

Worrying is one of the greatest drawbacks to happiness. Most of it can be avolded if we only determine not to let trifles annoy us, for the largest amount of worrying is caused by the smallest trifles.


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GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

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Malthoid Roofing

Saved the lumber, coal and building plant of A. I. Schowalter & Co., of Halstead, Kan., from fire last March. The south wind blew the flames from a barn filled with hay directly on the sheds of this company. These sheds were roofed with Malthoid, while the sides were covered with corrugated iron. The heat was so intense that it ignited the wood back of the corrugated iron and it was only with difficulty extinguished. The fire-resisting qualities of Malthoid Roofing saved the roof, which was subjected to the most heat.

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A. J. Bloom
Petaluma, California


The heaviest shipments of hay for many years have been made from Gilroy this season.

The Bakersfield board of education contemplates the addition of an agricultural course to the high school.

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, August 4, 1909.

### Butter.

Notwithstanding large receipts of butter the price has advanced 2½ cents during the week. The quantity coming is sufficient to give a slight tone of weakness but there is no suggestion of lower quotations.

Creamery per roll .....60@62½
Dairy per roll .....30
Eastern creamery per lb .....30
Cooking .....25

### Cheese.

Southern California Anchor .....20
Northern fresh .....17½@18
Anchor Young America .....21
**Domestic Swiss** .....20
**Imported Swiss** .....30

### Eggs and Poultry.

Eggs are very firm and some are held at prices above the quotations given below though with few takers.

Paying price f. o. b. L. A. are:
Eggs .....34@36
Case count buying price .....29

Dealers pay for live poultry f. o. b. L. A.:
Hens per pound 3½ up .....12@14
Stags and old roosters .....8
Fryers 2 to 2¾ lbs .....17
Broilers 1¼ to 2 lbs .....18
Broilers 2 lb .....19
Roasters 3 lbs and up.....17
Turkeys .....23
Geese .....12
Ducks .....12@13
Squabs .....1.25@1.75

### Live Stock.

**The following quotations are f. o. b., Los Angeles, on all stock.**
**Hogs from 175 to 200 pounds**.....7½
**Prime steers** .....4@4¼
**Heifers** .....3½@3¾
**Calves per pound** .....5
**Sheep ewes per head** .....3.75@4.00
**Lambs per head** .....3.25@3.50
**Wethers** .....4.50@5.00

### Potatoes.

Wholesale prices are:
New sweets per lb .....3@4
Early Rose local .....1.35@1.50
Burbank local .....1.35
Highlands .....1.35
Bermudas, Imperial per crate ..75@1.00
Australian Browns per sack .....1.25

### Onions.

**Wholesale quotations:**
**Silverskins, local** .....75@1.00
Northern Yellow Danvers .....1.25
White Wax per crate .....1.00@1.25

### Vegetables.

Artichokes locals .....60@75
Asparagus .....4@6
Beets per doz bunches .....15@20
**Beans string** .....2
Bell peppers .....12
Cabbages per sack .....60
Celery per doz .....60@90
**Chili per lb** .....25
**Chili dried** .....9@10
Cucumbers per box .....25@40
**Cauliflower per crate** .....1.25
Carrots per sk .....90
Corn per sk .....50@75
Egg plant per lb .....6
**Green onions per doz bunches** ..15@20
**Summer squash per box** .....35
Lettuce choice .....75@1.25
**Oyster plant** .....50
Okra per lb .....5@6
Peas per lb .....3@5
Parsley doz .....20@40
**Parsnips** .....15@20
Rhubarb Crimson Winter per box 1.00
Rhubarb Crimson Winter per lb .....1
**Radishes per doz** .....15@20
**Spinach per doz** .....15@20
Turnips sk .....90
Tomatoes crate .....40@50

### Citrus Fruits.

Valencias .....2.50@2.75
Grapefruit .....2.00@3.00
Lemons .....2.50@5.00
**Unpacked** .....1.00@1.35

### Fresh Fruits.

**Wholesale prices on the market are:**
Apricots per lug .....35@50
**New apples** .....50
Alexanders .....1.40@1.85
Graenstcins .....1.50@2.00
Casabas per crate .....2.00
Cherries per lb .....10
Currants .....60
Figs .....60@75
Grapes 4 basket crate .....75@1.25
**Gooseberries** .....10
**Loganberries** .....3
**Loquats per lb** .....3
Peaches box .....40@60
Pears per lb .....3½
Plums .....50@1.00
Prunes .....50@1.00
**Raspberries** .....4@5
**Blackberries** .....3@4
Strawberries .....4@5
Watermelons per doz .....1.00@1.50

### CANTALOUPES.

Cantaloupes ponies .....75
Jumbos .....1.00@1.25

### Dried Fruits.

**Wholesale prices are:**
Apricots .....8@9
Evap apples fy per lb .....10@11
Figs loose .....5
Peaches .....5@6
Pears .....9
Plums pitted .....8@9
Nectarines .....7½@9
Prunes .....7@8

RAISINS—Muscatels, 2-crown, loose, 50-lb. boxes, lb., 3½c; do., 3-crown, 4c; do., 4-crown 5c; sultanas, bleached, lb., 9c; do., unbleached, 3½@4c; new seeded raisins, 16-oz. packages, 6c; do., 12-oz. packages, 5c.

### Beans Dried.

Wholesale prices are:
Pink No. 1 .....3.50@3.75
**Limas per ctl** .....4.50
Black eyes .....3.50
Lady Washington .....5.50
Small White .....6.50@6.75
Garvanzas .....4.00@4.50

### Nuts.

Almonds IXL per lb .....15
Pecans polished .....15@17
**Peanuts California** .....5
Peanuts Eastern .....7
Walnuts No. 1 .....12@13
Walnuts No. 2 .....9@10

### Honey.

Wholesale quotations:
Extracted water white .....7
Extracted Light Amber .....5½@6
Comb Water White .....15
Comb white .....14
Beeswax .....25

### Hay.

Hay is somewhat unsettled and rather weaker than last week. Only choicest is now being picked up.

New Barley hay .....8.50@13.00
New alfalfa local .....12.00@12.50
New alfalfa Imperial .....10.50@11.00
Northern .....10.50@11.50
Wheat hay .....10.00@13.00
Tame oat .....10.00@15.00

### Grains.

Wholesale selling price f. o. b., Los Angeles:
Wheat new per ctl .....2.20@2.25
Kaffir corn .....2.00
Corn Eastern bulk .....1.90
Egyptain corn .....1.85
White oats .....2.25
Seed Rye .....2.00

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn .....1.95
Shorts .....1.95
Bran .....1.70
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....2.50
Feed meal .....2.00
Cracked wheat .....2.50
Rolled Barley .....1.55

## San Francisco Markets

SAN FRANCISCO, Aug. 3rd, 1909.

### Butter.

Butter advanced a half cent immediately after last quotations were given. It now stands at 28 with firm market.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

California extras per lb .....23
California seconds .....25½
Packing .....24½

### Cheese.

California flats .....13½@16
Cal Young America fy .....15
Young American Oregon fy .....15½

### Eggs and Poultry.

Eggs dropped a couple of cents on Saturday and recovered a half on Monday which they now hold with firm market.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:
Fresh ranch .....23@31½
Hens per doz .....4.50@9.00
Roosters .....4.50@9.00
Fryers per doz .....5.00@6.00
Broilers .....2.75@3.50
Geese per pair .....1.50@2.00
Ducks young .....5.00@8.00
Pigeons young .....1.00@2.25

### Live Stock.

San Francisco prices gross weight:
Steers .....3@4⅛
Cows and heifers .....2@3⅛
Hogs .....4@7¾
Calves per lb .....3½@5
Milk lambs .....5¼
Wethers No 1 .....4@4⅛
Ewes No. 1 .....3½@3⅝

### Potatoes.

Wholesale market quotations:
New crop .....65@90
Sweets crates per lb .....3¼@3½

### Vegetables.

Wholesale quotations:
Asparagus per box .....50@1.00
Bell peppers per box .....35@40
Brussels sprouts per lb .....3@5
Cabbage per box .....2.00@2.25
Cauliflower doz .....75@1.00
**Carrots per sk** .....65@75
Cucumbers per box .....40@50
Pickle cucumbers box .....60@75
Chili peppers per box .....25@35
Corn per sk .....75@1.15
Egg plant per box .....60@65
Beans limas .....4@5
Green peas per sk .....75@1.25
Okra box .....80@90
Onions green per box .....50@60
Rhubarb per box for bay ....1.25@1.50
Squash per box .....30@40
String beans .....1@3
Tomatoes River .....25@50
Tomatoes, Bay .....50@75
Wax Beans .....2@4
Wax Beans .....1½@5

### Onions.

New red per sk .....35
Yellow .....65@75

### Citrus Fruits.

Valencias .....2.25@3.00
Grapefruit .....1.50@3.00
Lemons .....2.00@5.00
Limes .....5.50@6.00

### Fresh Fruits.

Apricots box .....40@50
Apples new green .....75@1.50
Crab apples .....40@75
Cherries loose black per box ....50@65
Figs blk box .....85@1.00
Grapes Sweetwater lug .....60@85
Grapes seedless .....50@75
Malagas .....50@65
Rose of Peru .....50@60
Muscats .....1.00@1.25
Huckleberries per lb .....15
Logans per chest .....3.00@4.00
Nectarines crate white .....40@50
Nectarines red .....75@85
Malindas per chest .....3.00@4.00
Cherry plums per box .....25@35
Peaches freestones per lug box ..25@50
Peaches per lug box clings ....50@75
Plums boxes .....25@50
Plums Tragedy crates .....60@75
Pears Bartletts .....60@1.25
Longworth per chest .....4.00@6.00
Longworth per chest .....3.00@5.00
Nutmegs Rivers .....35@50
Muskmelons .....1.00@1.50
Pineapples per doz .....3.00@6.00
Pears box .....60@1.50
Blackberries per chest .....2.00@3.50
Huckleberries per lb .....12½@15
Raspberries per chest .....7.00@10.00
Watermelons per doz .....1.50@3.50

### Dried Fruits.

Prunes 4-size basis .....2½
Santa Clara .....2¾
**¼c premium for larger sizes**
Apricots per lb .....8¼@10
Peaches—Choice ...4; Fancy ...6@7½
Apples evap .....5@7½
Pears .....5@8½
**Figs** .....2½@4
**Nectarines** .....5@6
**Pitted Plums** .....7@8

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do, No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12. 3¾c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached. 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

Walnuts soft shell .....11
Hard shell .....6@8½
Ne Plus Ultra .....12
Almonds Nonp .....11½
Pecans .....15@17
Chestnuts .....2@10
Peanuts .....5@6
Pine nuts .....22½@25

### Beans Dried.

Limas .....4.10@4.20
Pink .....2.70@2.85
Small white .....6.25@6.50
Large white .....4.85
Black eyes .....3.35@3.50
Red kidneys .....3.60@3.70
Garvanzas .....2.75@3.00
Bayo .....4.70@4.90
Horse beans .....2.00@2.20

### Hops.

Hops 1908 crop .....8@11
Old crop .....3@7
1909 crop contracted for at ....15@17

### Honey.

White comb .....14@15
Light Amber .....10@12
**Extracted W W** .....7@8
Extracted light amber .....6@7½
Beeswax per lb .....25@29

### Hay.

Scott & Magner say:—Receipts of hay on the San Francisco market for the week ending today have amounted to over 5000 tons. This is the largest week's arrivals that we have had since last summer.

With no increase in the demand here in San Francisco, these heavy receipts have burdened the market to such an extent that prices have weakened, the movement of this bulk of hay has been slow, and the general feeling throughout the entire market is one of exceeding dullness.

A little choice wheat hay commands our topmost prices, but there is only an occasional car offered of this high type of hay. The bulk of arrivals consists of No. 1 wheat and of Wheat and oat, which is selling down to $13.00 per ton. There is a great deal of nice volunteer oat and oat and barley, which varieties of hay have also been lower through this week.

The large quantities of hay that are still in the fields, and for which there are no storage facilities, will have to be moved shortly. Therefore, it is anticipated that the prices that prevail in San Francisco today cannot be maintained when the heavy bulk of hay begins to be crowded into the market and offered for sale.

There is a little more alfalfa hay coming in now, but the market is not strong, as the dairymen are not prepared to pay any high figures. Off grades of alfalfa move very slowly, but the choice lots sell more readily.

This week's quotations are:
Choice wheat hay .....17.50@18.50
No 1 wheat or wheat & oat 16.00@17.00
No 2 wheat or wheat & oat 13.50@15.00
Choice tame oat .....16.00@17.00
Other tame oat .....12.00@14.00
New crop wild .....11.00@14.50
Stock hay .....8.50@9.00
Alfalfa .....10.00@14.00
Straw .....60@75

### Grains.

Wheat No 1 .....2.02½@2.07½
Barley .....1.38¾@1.43¾
Oats white .....1.90@2.15
Oats gray .....2.00@2.10
Rye new crop .....1.70@1.75
Corn Egyptain .....1.60@1.65
Corn Cal sm round .....1.80@1.90
Alfalfa seed, Cal .....16@18
Mustard brown .....3¾@4½
Millet .....2½@3
Flaxseed .....4
**Broom corn seed per ton** .....23.50

### Feed Stuff.

**Bran per ton** .....29.00@30.00
Feed cornmeal per ton .....39.00@40.00
Cracked corn per ton .....40.00@41.00
Rolled barley per ton .....31.00@32.00
Rolled oats per ton .....40.00@41.00
Oil cake meal per ton .....38.50@40.00
Cocoanut cake per ton .....25.00
Middlings .....36.00@37.50
Mixed feed per ton .....26.00@30.00
Shorts .....31.50@33.00

## Deciduous Market

SACRAMENTO, August 4, 1909.

Prices which have been received for the last few days for all lines of deciduous fruit have been very satisfactory. From 85 to 125 cars are going forward daily. Prices of fruit for the sales made on Friday by the California Fruit Distributors were as follows: Philadelphia—Bartletts averaged $1.60, Crawfords 85c, Tragedies $1.05, Germans, $1.15.

Chicago—Bartletts $1.80, Elbertas 90c, Crawfords 65c, Tragedies $1.40, Eggs $1.10, Sugars 1.25.

Boston—Bartletts $1.90, Crawford and Fosters 85c, Sugars $1.40, Eggs $1.30, Bradshaws $1.10, Imperial Duanes $1.85, Wicksons and Diamonds $1.65.

New York—Bartletts $2.30, Crawfords 95c, Tuscans $1.05, Eurekas $2.25, Abundance $1.37, Eggs $1.50.

On Saturday: Boston—Bartletts $1.90; peaches 85c; plums from $1.10 to $1.85.

Chicago—Bartlets, $1.80; peaches, 65c to 90c; plums $1.25.

Philadelphia—Bartletts $1.90; peaches 85c; plums $1.10.

New York—Bartletts $2.30; peaches 95c; plums $1.50; Eurekas $2.20.

The Fruit Echange for Friday reports: Boston—Crawfords, boes, 50c@$1; Crawfords, crates, 60c@$1; Tragedies, $1.30; Sugars, $1.25@1.50; Deckers, 75c@$1; Wicksons, $1.30@1.55; Egg, $1@1.50; Diamonds, $1.30@$1.70; Bartletts, $1.50@2.15.

New York—Bartletts, $2@$2.85; Crawfords, 75c@$1.25; Fosters, 90c@$1.25; Tuscans, $1@$1.40; Germans $1@$1.75.

Philadelphia—Crawfords, 80c@85c; Fosters, $1.05@$1.10; Tragedies, 85c@$1.10; Bartletts, $1.85@$2, Sugars, 75c@95c.

Cleveland—Pears, $1.80@$2.25; Crawfords, $1; Fosters, 85c@$1; St. Johns, $1; Wicksons, $1.30@$1.80; Sugars, $1.20¾$1.55; Tragedies, $1.65.

Chicago—Bartletts, $1.80@$2; half Bartletts, $1@$1.05; Tragedies, $1.10@$1.65; Muscats, 30c@$1.25; Malagas, 30@95c; Thompson seedless; $1.35; (grapes show mold).

And for Saturday: Philadelphia—Bartletts, $1.90 to $2.15; Crawfords, 80c@$105; Germans, $1.15@$1.35; sugars, $1.05@$1.20.

Minneapolis—Crawfords, 65c@80c; St. Johns, 55c; Tuscans, 55c; suagrs, $1.40@$1.50; eggs $1.35; Comedy $1.15@$1.45; Bradshaws, 90c@95c; Kelseys, $1.55@$1.60.

New York—Bartletts, $2@$2.75; Crawfords, 75c@$1; Deckers, 80c@$1.05; Tuscans, 85c@$1; Fosters, 75c@$1.05.

# Citrus Market

LOS ANGELES, August 4, 1909.

Oranges are still going forward at a liberal rate, but as for the past few weeks seedlings and sweets have not commanded satisfactory prices. This has been especially true in the auctions which have reflected the general market condition. Of course there are but few cars left of others than Valencias, but at the rate others have been selling, it hardly looks as if it is worth while to ship the few that are yet to go. With a large number of Valencias there can be but little showing up in the shipments, so it is probable no exceptional or record prices will be made this year, though it is hoped, and it now appears, that for good stock fair returns may be secured.

Lemons are manifesting a much more satisfactory market condition. The weather for the past week has been exceptionally warm in some parts of the East so that the demand has been greatly stimulated. The shipments have slowed up somewhat and from now on to the end of the season will be lighter, though it is possible that the rest of this month will see an average of close to 30 cars per day. From present indications the September shipments will be much lighter. This would indicate good prices for the remainder of this season. At present there are about 185,000 boxes of foreigns afloat this year as against 150,00 last year at this same date.

**Shipments.**

Total shipments of citrus fruits to date this season, 34,429 cars, of which 29,075 were oranegs and 5354 lemons. To same date last year, 27,276 cars, of which 23,242 were oranges and 4,034 lemons.

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NEW YORK, Aug. 2.—Fifteen carloads or oranges and two carloads of lemons sold. Market weak and depressed. Weather hot and sultry.

| VALENCIAS— | Average. |
|---|---|
| Golden Scepter, Rialto O Co | 2.20 |
| Sultan Hanson & Sears | 1.40 |
| Titus Ranch San Marino GPA | 2.55 |
| El Toreador San Marino GPA | 1.75 |
| Dan Patch A F Bloomington | 2.40 |
| Pony A F Bloomington | 1.75 |
| Butterfly Covina Ex Covina | 2.35 |
| Security S T Exchange | 2.20 |
| Vista Bonita A F Exchange | 3.80 |
| Lake Hemet A F Exchange | 2.65 |
| Mission Indian A F Exchange | 1.90 |
| Parrot SA Exchange | 2.30 |
| Red Shield ACG Ex | 2.25 |
| Green Crown ACG Ex | 1.85 |
| Fiesta Riverside Exchange | 2.40 |
| Pond Lily Riverside Exchange | 1.90 |
| A-One E Peycke Co | 1.55 |
| Climax E Peycke Co | 1.50 |
| Superior Benchley F Co | 2.55 |
| Shamrock T Strain | 3.35 |
| Albion T Strain | 2.50 |
| Old Mission C C Chapman | 4.15 |
| Golden Eagle C C Chapman | 2.80 |
| Ocean Speich & Co | 1.85 |

GRAPEFRUIT—Isis, $2.05; Mountain Lion, $1.60; Champion, $1.95.

LEMONS—Arab, S. A. Ex., $2.00; Greyhound, $1.75; Duck, $1.60; Quail, $1.50; Coyote, $1.20.

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PHILADELPHIA, Aug. 2.—Seven carloads of Valencias, one of sweets, one of seedlings and three of lemons sold.

| VALENCIAS— | Average. |
|---|---|
| Searchlight S S Orange | 2.00 |
| Hunter ACC Glendora | 2.10 |
| Aurora E Peycke Co | 2.45 |
| Our Popular Speich & Co | 1.95 |
| Pointer ACG Glendora | 2.45 |
| Mocker Spence F Co | 2.50 |
| Golden Orchard Ind F Co | 2.10 |
| Climax E Peycke Co | 1.80 |
| LEMONS— | |
| Golf ST Aurora Park | 1.45 |
| Blue Jay OK Exchange | 1.30 |
| Rialto Girl Growers' F Co | 1.70 |
| Stock Label ST Arroyo Park | 1.25 |
| Standard Growers' F Co | 1.35 |
| SWEETS— | |
| Sweetheart AF Alessandro | 1.65 |
| Eagle | 1.40 |
| Yankee Doodle | 1.10 |

CLEVELAND, Aug. 2.—One carload of Valencias, one of seedlings, one mixed and three of lemons sold. Cool. Market higher on oranges; firm on good stock lemons; lower on poor stock lemons.

| LEMONS— | |
|---|---|
| Troubadour AH Arlington | 1.50 |
| Palomar Loveless F Co | 1.95 |
| Hillside Gem Loveless F Co | 2.35 |
| Good Enough | 1.75 |
| Unlabeled Loveless F Co | 1.25 |
| Palomar Loveless F Co | 1.50 |
| VALENCIAS— | |
| Pico ST Whittier | 2.65 |
| Log Cabin Loveless F Co | 3.05 |
| Palomar | 2.45 |

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ST. LOUIS, Aug. 2.—Hot and muggy. Prices low on oranges on account of the quality. Nine carloads sold.

| VALENCIAS— | Average. |
|---|---|
| Pico ST Whittier | 1.85 |
| Carnation Moulton & Greene Co | 2.75 |
| Oriole V C Fillmore | 2.15 |
| Daisy Moulton & Greene Co | 2.35 |
| LEMONS— | |
| Cry Baby Flagler F Co | 1.45 |
| Troubadour AH Arlington | 1.90 |
| Justrite QC Corona | 2.95 |
| Blue Jay OK Exchange | 2.00 |
| Romeo Flagler F Co | 1.40 |
| Matador AH Prenda | 1.80 |
| Minerva QC Corona | 2.50 |

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BOSTON, Aug. 2.—Sixteen carloads sold. Weather favorable. Market easier on oranges; steady on lemons.

| VALENCIAS— | Average. |
|---|---|
| Sweetheart AF Highgrove | 2.50 |
| Secunda AH Pachappa | 2.10 |
| Carnation Moulton & Greene Co | 2.95 |
| Orchard National O Co | 2.85 |
| Gabriella Ind F Co | 2.40 |
| Eagle AF Highgrove | 2.30 |
| Robusta AH Pachappa | 2.50 |
| Hobo AH Pachappa | 1.85 |
| Champion A C Denman Sons | 2.95 |
| Alpha Riv F Co | 2.55 |
| Puck Speich & Co | 2.35 |
| Our Popular Speich & Co | 1.80 |
| LEMONS— | Average. |
| Cry Baby Flagler F Co | 1.90 |
| Squirrel AH Arlington | 2.05 |
| Royal QC Corona | 2.20 |
| Pet SA Exchange | 4.50 |
| Kaiser Hanson & Sears | 1.90 |
| Queen Bee QC Corona | 2.55 |
| O I C QC Corona | 2.10 |
| Greyhound SA Exchange | 3.80 |
| ST. MICHAELS— | |
| Sweetheart | 1.20 |
| Partridge | 2.05 |
| SWEETS— | |
| Dan Patch | 2.15 |
| Pony | 1.70 |
| Brown Seal | 1.25 |
| GRAPEFRUIT— | |
| Dan Patch | 1.45 |
| Gabriella | 2.45 |
| Champion seedless | 2.65 |

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PITTSBURG, Aug. 2.—Ten carloads sold. Market weak on lemons; very steady on oranges. Weather favorable.

| VALENCIAS— | Average. |
|---|---|
| Hiawatha TCC Exchange | 2.55 |
| Blue Jay OK Exchange | 2.00 |
| Jasmine DM Monrovia | 2.45 |
| Parrot SA Exchange | 2.60 |
| Owl OK Exchange | 2.00 |
| Lemons— | |
| Good Enough | 1.65 |
| Stock Label Sweetwater F Co | 1.70 |
| Standard Growers' F Co | 1.50 |
| El Toro Cal Citrus Union | 70 |
| Palm Tree AH Arlington | 1.50 |

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CINCINNATI, Aug. 2.—Warm. Market steady. Two carloads of oranges and two carloads of lemons sold.

| LEMONS— | Average. |
|---|---|
| Cry Baby Flagler F Co | 1.65 |
| Arab SA Exchange | 3.10 |
| Romeo Flagler F Co | 60 |
| Duck, SA Exchange | 2.70 |
| VALENCIAS— | |
| Mtn Crest SA Exchange | 2.35 |

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NEW YORK, Aug. 3.—Fourteen cars oranges and two cars lemons sold. The market is improving. Weather cool, cloudy.

| VALENCIAS— | Average. |
|---|---|
| Old Mission fy C C Chapman | 4.45 |
| Golden Eagle C C Chapman | 2.75 |
| Shamrock fy T Strain | 3.25 |
| Albion ch T Strain | 2.45 |
| Premium or Benchley F Co | 2.55 |
| Good sd Benchley F Co | 2.05 |
| Mocker or Spence F Co | 2.50 |
| Wreath Spence F Co | 1.95 |
| Orchard or National O Co | 2.80 |
| Standard sd National O Co | 2.30 |
| Carnation xc M & G Co | 2.70 |
| Daisy ch M & G Co | 2.25 |
| Gabriella xc Ind F Co | 2.40 |
| Titus Ranch fy San Marino GPA | 2.55 |
| El Toreador sd San Marino GPA | 2.00 |
| Stag ACG Exch | 3.90 |
| Pointer ACG Ex | 2.55 |
| Hunter ACG Ex | 2.05 |
| Alta Cresta AH Ex | 2.80 |
| Vista Bonita AF Ex | 2.80 |
| Lake Hemet AF Ex | 2.50 |
| Mission Indian AF Ex | 1.60 |
| Planet SS Exch | 2.10 |
| Butterfly Covina Ex Cov | 2.40 |
| Old Oaken Bucket | 1.85 |
| LEMONS— | Average. |
| Flowers fy | 2.40 |
| Stocklabel | 1.55 |
| Wright | 80 |

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BOSTON, Aug. 3.—Ten cars sold. Weather favorable. Market unchanged.

| VALENCIAS— | Average. |
|---|---|
| Crocus SB Yerkes Spur | 2.70 |
| Red Mtn Riv Ex | 2.30 |
| Crocus SB Yerkes Spur | 2.70 |
| Daisy ch M & G Co | 2.45 |
| Mocker or Spence F Co | 2.25 |
| Monrovia Heights | 1.80 |
| Pointer ACG Azusa | 2.70 |
| Riverside ogs Riv Ex | 2.00 |
| Carnation xc M & G Co | 3.20 |
| Our Favorite fy M & G Co | 2.40 |
| Trop Queen sd M & G Co | 1.95 |
| LEMONS— | Average. |
| Quail OK Ex | 3.50 |
| Squirrel AH Arlington | 3.35 |
| Mocker or Spence F Co | 2.10 |
| Coyote OK Ex | 2.60 |
| Don SA Ex | 2.00 |
| ST. MICHAELS— | |
| Red Mtn | 2.15 |
| Riverside Ogs | 1.85 |
| Our Favorite | 2.10 |
| SWEETS— | |
| Riverside Ogs | 2.55 |

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(Continued from Page 139.)

only charge which A would be obliged to pay would be for cost of lifting and delivering the water to him, and I presume that is the true intent and meaning of the agreement, and therefore, a charge for any prior repairs, or sand pumping, or for sinking the well, or erecting the pump, etc., would not be legitimate.—E. L. P.

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### Water Rights.

A stream rising on the land of A. flows through lands of B, C and others, none using the flow except for watering stock. Can A legally sell to B his surplus water to be used for irrigating purposes?—O. L., Santa Rosa.

Assuming that neither B, C or any other person has acquired rights in the flowing stream, A might, of course, sell the surplus water; but if a person has had the continued, notorious, uninterrupted and adverse enjoyment of the water or a portion thereof, during a period of five years, the law will presume a grant of the right so held and enjoyed by him, and then A could not deprive such a person of his right by selling to some one else.—E. L. P.

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### Land Rights With Water Locations.

What land rights, if any, go with tunnel, headgate, and pipe line locations?—W. D. R., Los Angeles.

Such land rights as are reasonably necessary for the use of the tunnels, head-gate and pipe line.

Under the recent mining law, I think that perhaps one might locate a tunnel site for developing water, which said site would be of certain dimensions, but there is no law defining the exact quantity of land to which a locator of water right is entitled. Each case must be governed by the circumstances surrounding it. —E. L. P.

### Remedy for Heaves.

The following I have found a good remedy for heaves which will always help and often cure. One pound each of fenugreek, saltpeter, copperas, and ginger, best Jamicia. Mix well.

Dose one-half tablespoon mixed each morning and evening in grain. It is better to slightly dampen the grain, until the horse is better. After that a dose once or twice a week will be sufficient Never feed musty hay to horses.

To remove film from eye of cattle or horses. Rub a little common hog's lard in eye with the finger. Be careful not to hurt eye, but get lard under the lid. If careful, animal will not object after one or two treatments. I have used the above for many years with best of success

I have been a subscriber and reader of California Cultivator for many years.—Wm. C. Campbell, Whittier, Cal.

---

### IRRIGATION EXPERTS TO MEET AUGUST 9.

The most important irrigation congress ever called together in the United States will Convene at Spokane, Wash. August 9th to 12th.

Many of the brightest minds of the country will assemble at this congress and mighty matters relating to irrigation and kindred subjects will be presented and discussed.

F. H. Newell director of the Government reclamation service and famous for the prominent part he has taken in all the great irrigation projects of the day, will be present. Important papers will be presented by James J. Hill, president of the Great Northern Railway; George C. Pardee, former Governor of California; Dr. Enoch A. Bryan, president of Washington State College; R. E. Campbell, of the forestry branch of the Canadian Department of the Interior; E. T. Allen, United States District Forester; Bailey Willis, United States Geological Survey; Dr. W. J. McGee, secretary of the Inland Waterways Commission; Clarence Johnston, State Engineer of Wyoming and many others famous in the irrigation world.

One of the most interesting features of the congress will be an address on "Soil Utilization" by James Wilson, Secretary of Agriculture in President Taft's Cabinet.

Owing to the wide scope of the subjects contemplated and the remarkable talent assembled, this National Irrigation Congress promises to be the greatest one ever held in the United States.

"The American Weekly" with its own special men on the ground and its own perfectly equipped art and editorial staff, will present to its readers a complete and authentic account of the proceedings, constituting that number a liberal education in the science of irrigation. "The American Weekly" is a purely Western newspaper, devoted to the West and its interests, with special attention to the Pacific Coast States.

As will be seen by its advertisement in this issue, the Irrigation number and the three succeeding issues will be sent to any address for ten cents.

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### GUM DISEASE.

We have received a small booklet of fourteen pages which will have much of interest for citrus growers who have been having trouble with gum disease in their orchards. The booklet discusses the gum disease, its cause, manner of prevention, and means of securing better growth of tree after cure. It is written by Mr. John A. Lehman of Glendora. Mr. Lehman maintains that the cause of the disease is purely physical and shows by illustrations where experiments have been performed which prove his theory. In a word his theory is, "Partial interruption of circulation in some roots with soil surrounding obstruction in the required condition to produce fungus." His remedy is, "A cure in all cases can solely be obtained by removing the obstruction." The price of the booklet is fifty cents and may be secured from the publishers, Baumgardt Publishing Co., Los Angeles.

---

### Hay Houses Merge.

The hay houses of Scott & Magner and W. A. Miller & Co. are to merge their interests, and form one large incorporated company, with branches all over the state. It will be known as the Scott, Magner & Miller, incorporated, and the officers will be Joseph Magner, president; W. A. Miller, vice-president, and A. W. Scott, Jr., secretary-treasurer. The corporation has leased the Hollis building at California and Market streets and expects to open its offices there early in August.

**What is the Market Price of Your Produce Today?**

Mr. Farmer, the *"Daily Market Reporter"* is the only paper that can give you this information absolutely correct. Do not depend on the newspapers. Read the official paper of the Produce Exchange of Los Angeles for market information. Published "daily" immediately after the call on the Exchange.

*SUBSCRIPTION RATES: Payable in Advance, per Month, 50c; per Year, $5.00*

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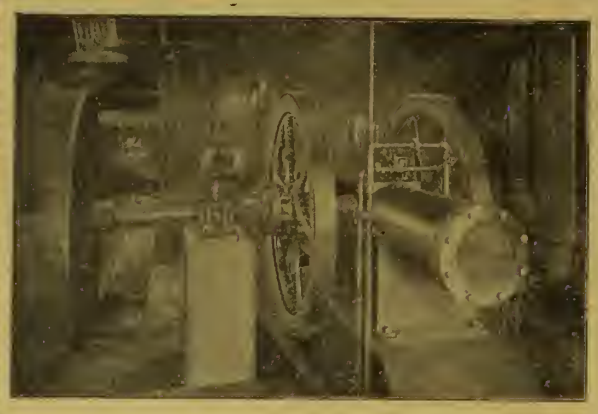


60 H. P. Western Pumping Plant

# A Frequent Mistake

made by engine buyers is to suppose that one engine is as good as another, the only difference being in the price. Certainly, many engines can be bought for less money than the WESTERN and this fact sometimes leads the prospective purchaser to the conclusion that to buy a low-priced engine will be an economy. This is not so. The one essential of an economical engine is that it shall give the maximum service for the minimum expenditure. If it is cheapened to a point where it fails to do this, **any** money put into it is an extravagance.

In the WESTERN every detail of design and construction has been to reduce the fuel and maintenance cost to the lowest possible figure. That we have succeeded is being constantly proven where our engines are installed alongside other makes, doing the same work, under the same conditions, developing **more** power, with **less** fuel.

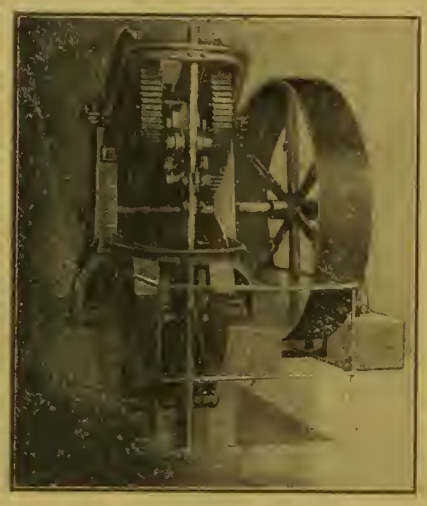
Write for Catalogue.

Have you heard of the Nix-Frost Crude Oil Gas Producer? It's "The Cheapest Power on Earth."

**Western Gas Engine Company**

*Northern Branch: San Francisco, Cal.* *Los Angeles. Cal.*

# The Smooth Running, Noiseless Pomona Deep Well Pump



It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.

**POMONA MANUFACTURING CO.**

**POMONA, CALIFORNIA**

THE

# Latest Deep Well Turbine Pump

Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

Write for Catalogue 46B.

A deep well pump that has no valves or plungers to wear or get out of order, no gears, consequently no noise or breaking of teeth.

Compact, durable, always primed and ready to operate, constant flow, hence increased capacity of well.

This type of pump is fast taking the place of Vertical Steam Deep well Plunger and Propeller Pumps.

**Byron Jackson Iron Works**

**Main Office and Works:**
**Carlton Station**
**West Berkeley, Cal.**

## A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

## The Little Wonder

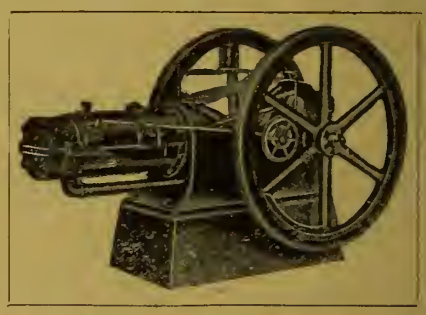
Write or call on

**Wm. Gregory**

**602 No. Main St. Los Angeles, Cal.**

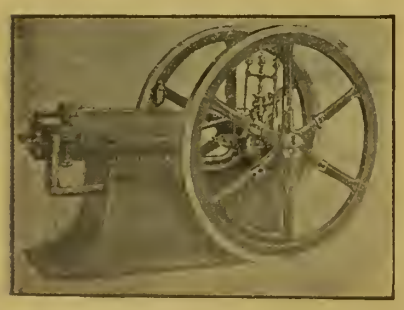
## Not too Heavy Not too Light But Just Right

Send for Bulletin No. 12.



**COMMERCIAL ENGINE CO.**

**951-955 No. Main St., Los Angeles, Cal.**

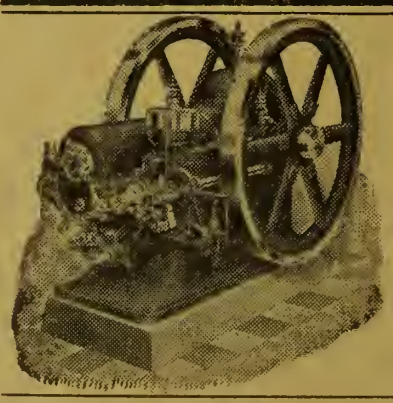


## Stover Gas Engines

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

**Livingston & Lee**

**352 So. Los Angeles St., Los Angeles**



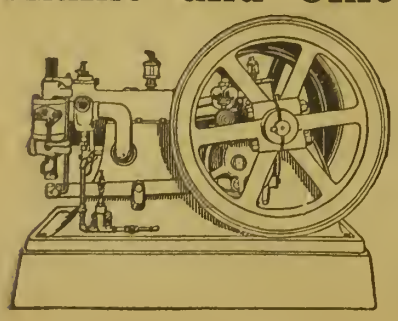
## Another New Gas Engine

Is amongst us and if you are in need of power you should investigate this one. You will find that it possesses the most desirable features of all the old timers and the price is right. Plenty of catalogues for distribution.

***Henshaw-Bulkley & Co.***

**262-264 So. Los Angeles St., Los Angeles**

## Alamo and Union Distillate Engines



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**Easy to Start and Operate**
**Prices are Right**

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# Second Hand Irrigating Plants

Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

**Western Machinery Company**

**230 Main Street, San Francisco, Cal.**

# California Cultivator

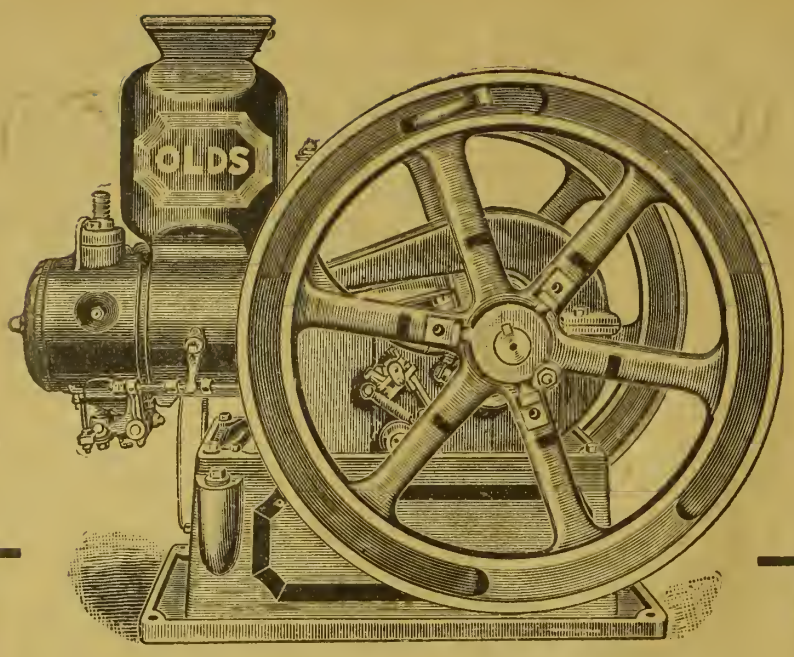
Published Weekly — One Dollar a Year

Los Angeles — August 12, 1909 — San Francisco


# Stanislaus County's Wealth Producers

## A Group of Registered Dairy Cattle on Pastures in Modesto-Turlock Irrigation District

STANISLAUS county usually called "Sunny" and now fast acquiring the additional name "Progressive," is making rapid strides in settlement and development. This state has from earliest times been a land of transformations. Among the great changes that have taken place none are more marked than those on the rich lands of Stanislaus county in Central California. Originally this was a cattle and ranch country. Later it was devoted to hay and grain which made wealth for many and caused the erection of numerous warehouses along the lines of the railroads. Some six or seven years ago the great Modesto-Turlock irrigation system was completed, water was turned into the canals, and alfalfa, the king of forage plants, has taken the place of the hay and grain. The fields are not by any means given over to alfalfa, for tomatoes, beans, peas, asparagus, berries, melons, and fruits are wealth producers. Active factors in the advancement of this section are the Modesto and Turlock Chambers of Commerce.




# Send for Our New Catalog

## Do Not Think of Buying a Gasoline Engine without it.

The things that should decide you in selecting the right engine are: **what will it cost to run the engine**—(1) how much gasoline does it use; (2) how many parts are there to get out of order; (3) what will the repairs cost; (4) will the mixer always work;(5) will the gasoline pump get out of order; (6) if water is left in the engine and it freezes, what will have to be replaced; (7) if it is guaranteed, what is the guarantee worth.

## The Olds Engine

**is the most economical engine to run**

(1) the gasoline cost is very low because the new Seager mixer automatically makes exactly the right mixture of gas and air all the time.

(2) it is the simplest because it has no small delicate parts to get out of adjustment.

(3) You are guaranteed against buying any repair for one year because we make the following proposition.

**We agree to replace, free of charge, any part of an Olds Engine that breaks or becomes worn, from ANY CAUSE WHATSOEVER, within one year from date of shipment, provided the replacement is one you think should be borne by the manufacturer. YOU ARE TO BE THE ONLY JUDGE. There is to be no argument, no delay in returning old parts and getting new ones, you decide and I abide by your decision.**

This makes a big possible saving to you the first year when 99 per cent. of your troubles would naturally come.

(4) The Seager mixer has **no moving parts**—once adjusted it is adjusted for a lifetime.

(5) **The Olds Type A Engine has no gasoline pump. The piston sucks the gasoline into the mixer automatically.**

(6) The Olds water jacket is a separate casting. In case of freezing this part alone can be replaced at slight expense, instead of having to buy a whole engine bed and cylinder.

(7) A guarantee is limited by the financial responsibility of the concern making it. Ask your banker whether we are good for what we say.

There are cheaper engines made that are painted just as prettily as ours, and their catalogues contain many tempting claims, and make many attractive promises, but in spite of all that has been claimed and promised about other gasoline engines selling at all kinds of prices, we have been making steadily for **30 years an engine that has become the standard of the world.**

An engine that is as finely built as the Olds, that has Olds quality of material and workmanship, backed by our kind of guarantee, or with a record of so many thousands of satisfied customers, **could not be successfully sold for any less than our price.**

J. B. SEAGER, Gen. Mgr.

**Seager Engine Works**

**Formerly Olds Gas Power Co.**

**Main Office and Factory 993 Seager Street**

**LANSING, MICH.**

Every man has a hobby. Mine is building engines that are so good the user will want his neighbor to have one. I insist on every Olds Engine becoming an Olds salesman.

Anybody can paint a cheap engine to look good; I never built cheap goods and never will. When I took hold of ths business my task was easy because I did not have to start a new concern. It had already gone through over twenty years of success. The Olds Engine was a magnificent engine, but now it is 100 per cent. better than ever before—better material; better mixer; no gasoline pump; automoble quality cylinder; jump spark ignition—five parts only, all of which are stationary—instead of thirty moving parts as in the old style igniters; removable valves; simplicity; three separate inspections; economy and certainty of operation.

Everyone will be satisfied with an Olds Engine—he cannot help it. I care more for having a pleased Olds user than I do to sell a large number of engines. Every user of an Olds Engine must be satisfied—I will not have any other kind of a customer.

I guarantee every Olds Engine to be in perfect running order when it leaves the factory. I know the engine you get is all right, and that the high Olds standard is maintained. If is the best you can buy, whether you pay more or less than the Olds price.

J. B. SEAGER, Gen. Mgr.

The United States Governmcnt uses them in its military posts, government work of spraying and irrigating, because the Olds Engines have stood the most severe tests they could put them to.

**Every farmer** who requires an engine **can afford an Olds Engine.** It does not pay to buy a cheap machine of any kind, and the price you pay for an Olds is only a slight per cent. over what it costs us to build them right. We make so many a year we can afford to have our percentage of profit small. You are really getting an engine of the very **highest possible quality at the right price.** In fact you get **all** of your money's worth—one hundred cents worth for every dollar.

Our catalogue mailed you free tells you just what you should know about an engine. Write for it today before you forget it.

Write me personally telling me what you want the engine to do, and you will get a personal letter from me that will give you the facts you want. To save time you can write to my nearest representative.

**Olds Gas Power Co. Branches**

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**MINNEAPOLIS**—
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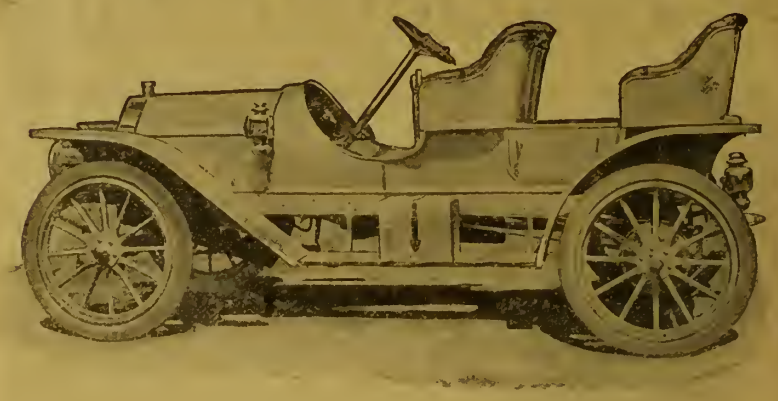
# DUROCAR



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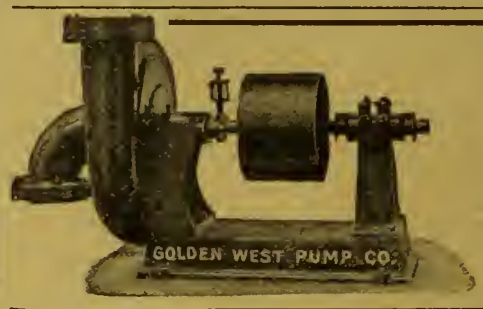
**Office and Factory 933 S. Los Angeles St. Los Angeles, Cal.**

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NO INTEREST NO TAXES

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**$1 Down** And That's All **$1 a Week** For 29 Weeks

**$1** YOU CERTAINLY CAN invest $1 in a lot 30x118 at one of the finest beach resorts on the whole CALIFORNIA COAST, where more than $50,000 has already been spent in improvements and as much more will be spent in the next year.

THIS PROPERTY **$1** has changed hands at an enormous sacrifice to former owners, and the lots that formerly sold from $300 to $1000 can now be had at from $30 to $250. If you want a snap bargain, act quick, for they won't last long at these prices. There will be things doing at LA GRANDE BEACH. The right people are behind the proposition and will make it go. These lots will advance 10% after 1000 lots are sold.

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**Reasons Why You Shonld Invest in La Grande Beach**

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2d. BECAUSE it is on the main line of the Southern Pacific Railroad.
3d. BECAUSE all the improvements are permanent and built of the best material that money could buy.
4th. BECAUSE it is the grandest beach that eyes ever gazed upon.
5th. BECAUSE the back country is one of the most fertile spots in California.
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8th. BECAUSE the lots are becoming more valuable each day on account of its popularity.
9th. BECAUSE a holder of a deed to a La Grande lot has a tangible asset.
10th. BECAUSE there is only a limited amount of beach property in California, and La Grande Beach is the cream of the Pacific Coast.
11th. BECAUSE these lots were put on the market in 1907 and sold on an average of $300. Some were sold as high as $1000.
12th. BECAUSE this beach has the finest and purest soft water for domestic use.
13th. BECAUSE the prices of these lots at present are only about 10 per cent of their real value.
14th. BECAUSE all lots in La Grande Beach are sand lots.
15th. BECAUSE it is the healthiest place in the world. If you are run down and have that tired feeling, go to La Grande Beach for two weeks and you will feel like a new person.
16th. BECAUSE more than $50,000 has already been expended in improvements and as much more will be spent the coming season.

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A live Representative wanted in every town.

# California Cultivator

Vol. XXXIII—No. 7 Los Angeles, California, Thursday, August 12, 1909 Subscription $1 a Year


# Irrigation Demonstrations at Spokane

## A Plat of Ground Showing Fourteen Irrigation Practices

FOURTEEN approved methods of irrigating, adapted to practically every kind of land and the various tree, root and vine crops, are being demonstrated on a 15-acre tract in the Spokane valley within a stone's throw of the city limits in connection with the 17th session of the National Irrigation Congress in Spokane this week. The purpose is to afford the delegates to the Congress and visitors an opportunity to study the best known means of supplying moisture by artificial means to orchards, berry and sugar beet fields, vine-yards and hay and grain lands. There are also demonstrations by manufacturers of apparatus used in modern irrigation. Ten acres of land has been set aside for displays of machinery.

What is considered by experts to be the acme of scientific irrigation and at the same time the most economical method is being shown in the use of porous tile pipe laid under the ground. The principle is the antithesis of drainage in that the pores and joints of the pipes give out sufficient water to supply the plant life above them. This plan is declared to be practicable in supplying moisture for fruit trees, vegetables, berries and almost every kind of product, the advantage being that the water carried by the pipes is discharged directly below the roots of the plants, instead of on the surface of the soil.

In comparison with the foregoing plan there is being shown the primitive method, practiced by irrigators before it was learned how to distribute water economically and to the best advantage. No grading or leveling was done on this tract; in fact, in contour it is as Nature left it. Water is taken to the highest point on the land to distribute itself over the ground. The idea in this is to show waste of water and soil by washing and erosion.

The individual system, also demonstrated, calls for piping water to every tree. To make it effective the water must have a head. The pipe, which may be small, is run to within three feet of a tree to discharge water into a circular ditch or basin built around the tree. This method is desirable in districts where a small amount of water is desired to do a large amount of irrigating. There is no loss from evaporation or seepage, and only the ground in which the tree grows receives the water. The cost of installing this system is much larger than for the open ditch or flume system, but the difference is soon made up on the cost of water, or where it is paid for by the acre-foot.

Subirrigating by means of open ditches is also shown. The ditches are of such depth that the water is absorbed without moistening the surface. This method is advantageous where soil has a tendency to bake or become crusted after watering.

Two tracts show the practicability of watering steep land in open ditches. The inclines on one tract are from 30 to 45 degrees. The other shows the terrace system, water being dropped from one terrace to the other. Land can be irrigated by this plan without washing or erosion.

One form of the corrugation system is applied to soil where the land slopes in more than one direction, the ditches being made to follow the natural contour, which needs no grading. Water is supplied through one box and the ditches spread out in fan shape over the land.

Another plan of the so-called corrugation idea, best adapted to sugar beet, alfalfa and grain lands with a gentle slope, shows water distribution by means of V-shaped ditches or rills, 2½ inches deep and about 18 inches apart. The marginal dike or basin system of irrigation shows ditches built surrounding the tract of varying size running from one acre to ten acres in area. To practice this method successfully the land must be level or have only a gentle slope. Sufficient head may be had in the water itself to cause it to spread over the ground.

On another tract is the dike system, which follows the natural contour of the land. This method is adapted to ground with a slope, but is not practical for level land. It is similar to the side dike system, but the first cost is less and the results not as satisfactory.

The side dike system is used to best advantage on ground with a uniform slope. The method is to build dikes 100 feet apart, from eight to twelve inches high, depending upon the character of the soil. Water is taken from the head ditch and spread in a sheet over the areas between the dikes. The surplus passes into a ditch and is carried to the next area.

The sprinkler plan calls for spray-sprinklers arranged between the trees or vegetable rows and so placed that they water all of the ground. This system can be used only where water is supplied under pressure.

Another system is to distribute water to each tree in an open flume. The water is supplied from a head ditch. This is similar to the piping method to invidivual trees, but is a waste of water, though the cost of installation is less.

C. M. Speck, chairman of the practical demonstration committee of the irrigation congress, is assisted in the demonstrations by H. Delepine, an experienced engineer, who has charge of the work, and practical irrigators and growers from various parts of the United States and Canada, in explaining the various methods of watering land to obtain the best results at the least cost.

One of the Ditches Carrying Water to the Individual Farm, Modesto-Turlock Irrigation District, Stanislaus County.

# Marking of Tents for Practical Fumigation

## R. S. Woglum, Agent of the Bureau of Entomology, says no Patent will Prevail other than the one Possessed by the Department

DURING the fumigation season of 1908, I introduced in Southern California an improved system of fumigation of which one of the important factors was the marking of tents with three graduated parallel lines. Recently Mr. W. H. Payne, of Monrovia, has caused considerable disturbance among citrus growers through the information that he has a patent on the marking of fumigation tents and threatens to sue people should they mark their tents to utilize my system.

It happens that Mr. Payne has patent No. 731,610, issued in 1903 on the marking of fumigation

(Continued on Page 156.)

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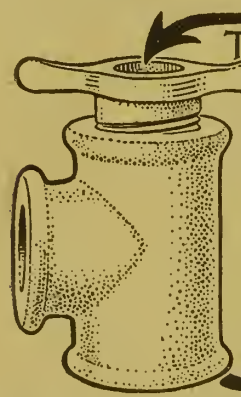

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There is nothing to get out of order. It is so simple you will wonder why it was never thought of before.
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Address **George C. Roeding, Fresno, California**

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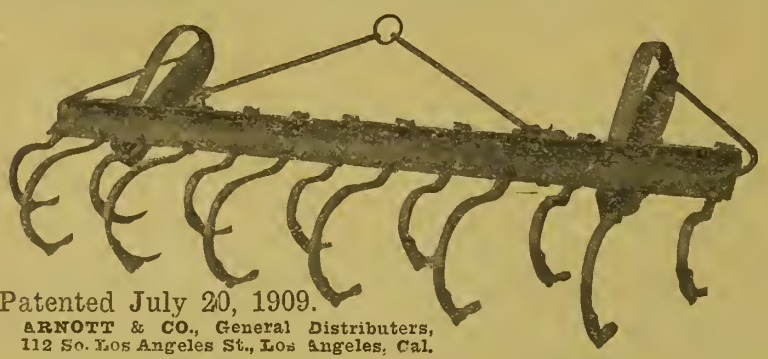

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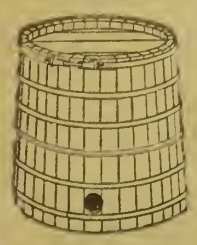

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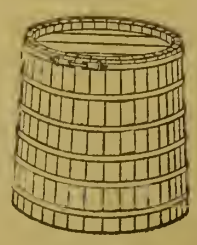

*Wine Tank* *Water Tank*


# With the Citrus Growers

"IN CALIFORNIA."

REPORTING on conditions prevailing in California packing houses the packing house committee of the visiting members of the Florida fruit growers make the following report:

In California we found large, modern, well ventilated and lighted packing houses the rule, and not the exception. The use of labor-saving devices prevailed everywhere with the Californians; no expense is too great to incur in the saving of a cent or a few cents in the handling of a box of fruit. We believe that the Californian growers, on account of modern equipment, save not only millions of dollars by careful handling, but also fully ten cents per box in packing. Estimating the present Florida crop at six million boxes, the 10 cents per box that could be saved to the Florida growers this year by having up-to-date packing houses and appliances, would amount to the sum of $600,000.00, an amount sufficient to build and fully equip sixty modern packing houses, costing $10,000 each.

**Packing Houses.**

The California packing houses are well constructed, large, roomy, well ventilated and lighted, so that large quantities of fruit can be handled daily without crowding and conjestion.

Every packing house is provided with electricity which furnishes power for running all machinery as well as artificial lights when needed.

Every packing house we visited was found to be scrupulously clean and its contents methodically arranged.

**Neat Offices.**

Office equipments and telephones we found everywhere. In fact the general appearance of every packing house visited compared favorably with our best regulated wholesale business houses in point of convenience and neatness.

Clifornia spends thousands of dollars for packing house equipment, where Florida spends hundreds. The most of these packing houses and their equipment range from five to seventy-five thousand dollars each, the average cost being in the neighborhood of ten to fifteen thousand dollars. We found various devices for washing and sizing, and also carriers for the easy handling and movement of the fruit. It would require a report of too great length to atempt to explain the different systems used by the various packing houses visited, therefore will confine ourselves to a packing house visited at Duarte, as embodying practically all the essential conveniences found in the others.

**Model Packing House.**

If you will follow us from the field box just unloaded from the wagon, we will take you through this packing house and attempt to describe the various movements of the fruit and machinery used in moving it. The field box is placed on a platform, or automatic dumper about two feet from the floor, the machinery slowly tilts the box over and empties the fruit slowly on a slatted hopper, the bottom of which is made with rubber tubing spaced so as to allow the dirt, leaves and trash to fall through into a receptable placed underneath. We would have you note that the second box is not emptied into this hopper until the first box is out of the way. So different is this arrangement from many of the Florida packing houses, where you will find fruit piled from one to two feet in height in the hoppers. From this slatted hopper the fruit is carried by gravitation, or by belts in some cases, to the washer, which, in this house, consists of three fiber brushes about six inches in diameter and four feet long placed side by side with the lower end slightly inclined downward. Placed end to end to these brushes are two sets or units, of brushes, also inclined downward. These units furnish a brush space of twelve feet in length and about eighteen or twenty inches in width. These brushes are operated by electric power, and the fruit passing over them is continually sprayed with fresh water from an overhead perforated pipe. During the movement of the fruit along these brushes it is thoroughly cleaned and washed. From the brushes the fruit is carried, by an elevator, to the drying racks, which are made with slatted bottoms and suspended from overhead. These racks are approximately six feet wide and eighteen or twenty feet in length, suspended so as to incline slightly downward at their farther ends. When these dryers are filled with fruit they are gently shaken up by an attendant, which causes the water to fall through and from here the fruit is passed on to a slow moving wide belt which runs through a box-like affair, through which a draft of air is forced so that when the fruit reaches the farther end of the box the fruit is perfectly dry. Here in front of the slow moving belt sit the graders, and here will be found other belts running parallel on which second and third grade fruit is placed, the first grade going forward on the belt from which the other grades are taken. The culls are usually cared for by a belt placed underneath and running in another direction. The graded fruit now goes forward to automatic weighing machines so adjusted that whenever the hopper of the weighing machine contains twenty-five or any required number of pounds, the hopper automatically tilts and registers the number of pounds of the various grades. From this record the number of pounds of each grade supplied by any grower is ascertained, and proper credit is given this grower and when sold settlement is made accordingly. Now from the weighers the fruit falls on belts which convey each grade to its respective sizer. Remember the fruit is all the time going forward without stopping, moving like clock work to the box. All of the sizers in this particular house are of the roller type which consist of wooden rolls or rollers of different diameters. In some of the packing houses we found the rope sizers, in others the fruit was carried forward and at intervals were placed crossed belts at various heights above the main belt so that the orange in its movement forward would be diverted to one side when it touched the belt corresponding to its size. In other houses electrically charged rods placed over the running belts at

various heights, so that when the oranges touched one of these rods in its movement forward it would be electrically kicked off the belt into its proper bin. In the bins we now find sized fruit, washed, dried and without incurring any damage whatever. Here the packers (principally women) wrap and pack the fruit. The packing boxes are then placed on belts, or gravity conveyors which carry them to the cooperer who with a slight shove rolls the boxes under the press. This movement automatically registers the number of boxes. When coopered, a single movement sends the box to the car where it is loaded, precooled and iced, and is then sent over snow-covered mountains, through alkali deserts, to a market two thousand miles from the shipping point much farther than is needed for our Florida fruit.

**Box Making.**

A few remarks on box making and wrapping machinery and then I am done: In every packing house are to be found automatic box making machines operated by electricity. Into a receptacle are placed the heads, and in another receptacle are placed the sides. The heads and center piece fall automatically into their proper places, one side (which consists of two pieces) falling on top of the heads and properly spaced. These sides are automatically nailed and the box turned by one movement of the machine. The same process is repeated for the two other sides of the box, and then the box is automatically kicked off and the number made recorded. The completed boxes are placed on gravity or belt carriers and sent forward to the packers. Two men and machine can turn out from two to three thousand completed boxes per day.

In one packing house we found a wrapping machine operated by electricity. These machines appear to be complicated and expensive, and until they are fairly tested, we think our Florida growers can invest their money to better advantage in buying more needed appliances of proven merit.

## SOME EXPERIMENTS WITH AN ORANGE.

Experimenters in need of chemicals may sometimes do without the druggist. The soil, plants, animals, are but chemical laboratories; in one orange, chemicals are found in such a number and of such a nature as to enable anyone to perform several curious experiments. Most of the readers of the Scientific American probably have read about or used the sympathetic ink which is obtained by merely dipping a pen into the juice of the fruit. The sudden apparition, on the heated paper, of the hitherto invisible script is one of the pretty experiments which can be made with orange juice. Those which the writer is about to describe have more to do with the physiological than with the strictly chemical properties of the fruit.

Sugar and a considerable amount of citric acid are found in a ripe orange. Besides the taste, a good proof of the presence of a true acid in orange juice can be had by boiling in water a few red cabbage leaves and then letting some orange juice fall into the bluish decoction. The instantaneous change from blue to red reveals the presence of acids even when taste fails. It may be a matter of surprise to many to learn that the strong sugar and acid flavor of orange juice cannot be perceived by a considerable region of our gustative organ. The middle anterior part of our tongue is as insensible to these two flavors as the punctum caecum of our retina is insensible to light. The fact was ascertained for the first time, I believe, by the scientist Schreiber, who carefully fixed the boundaries of the insensible regions of the tongue for many substances, among which were sugar and citric acid. The unresponsive area corresponding to sugar does not coincide everywhere with the area of insensibility for citric acid, but it shows at the same time the existence of a large territory common to both. Cut a small piece of peeled orange. Express it slightly, so as to avoid the dropping and running of the juice over the tongue. Place it in contact with your tongue at nearly one inch from the tip. You will find the orange absolutely tasteless. Bring forward the same piece of orange on to the tip of the tongue, and the strong sugar and acid flavor instantaneously reappears.

It cannot be said that a part only of our gustative organ is insensible to the taste of the essential oil contined in the orange peel, for it is the whole tongue and mouth which do not perceive it. To say this while everyone knows the powerful aromatic taste of orange peel seems foolish enough, yet it is true. That particular taste is not a taste but a smell, perceived with the nose only, and many other sensations called tastes have not the slightest right to such a title. Yet the statement that such condiments as vanilla or peppermint are tasteless, is sure to arouse considerable opposition if you make it after dinner in a company of laymen. Ask the most determined of your contradictors to leave the room for a moment, and meanwhile cut into small pieces some of the outer, yellow peel of an orange, which you place in a spoon. Your opponent is then requested to close hermetically his nose and to enter the room. When he is near the table, you ask him moreover to close his eyes, and to eat and name the spoonful of food you place in his mouth. As long as his fingers press his nostrils, no amount of chewing or swallowing will enable him to comply with the latter request.

Yet it is not probable that any part of any plant is much richer in essential oil than the yellow epicarp of the orange. It is so loaded with the odoriferous liquid, that any change in its shape will produce tiny jets which spring in every direction. To observe these, light a candle and bring near it a piece of orange peel held between thumb and forefinger. Double and press the peel, the yellow side facing the candle. Pretty streaks of fire will be seen to start from the candle up to several inches away from it. They are produced by the ignited jets of essential oil.—Prof. Michaud in Scientific American.

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The Farmers Union of Washington, Oregon and Idaho, has decided that it will refuse to allow the deduction of one pound on every sack of grain weighed. This has been the custom in the past and has deprived the farmers of those states of a half million dollars annually.


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No woman realizes how much work she could save, and the tempting variety of dishes she could offer at the table, until she possesses a Keen Kutter Food Chopper.

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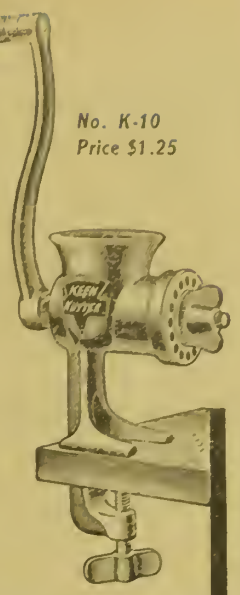

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is attached to the table or detached in a second —works so easily a child would enjoy using it —wears a lifetime—more easily cleaned than a chopping bowl.

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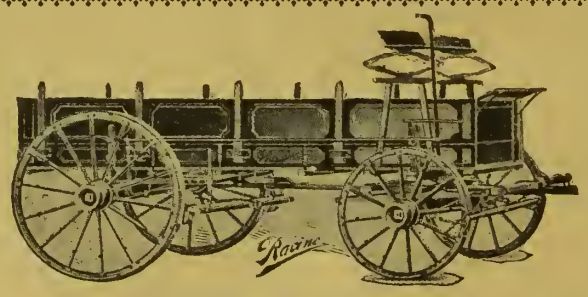

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# Deciduous Fruit Culture

By J. W. Mills

### WHAT HONEY DEW IS.

THE impression seems to be prevalent in Sacramento that the presence of the elm aphis on the city shade trees is a newly introduced pest. This is a mistake. The elm aphis have been with us for many years, and the present scourge, as it may be termed, is a good illustration of the work that, in ordinary years, is accomplished by beneficial insects.

Occasionally peculiar climatic conditions arise, whereby the natural insect enemies of the aphids do not get an even start with the pest, showing what damage, loss and annoyance we would be subjected to if these various beneficial forms were suddenly to be removed.

The good work they do every year in preventing such losses is never known or appreciated until we are compelled to pass through a "honey dew siege" like the present one. It also serves to admirably illustrate the work of the State insectary in Capitol Park, and to show the need of fostering our native beneficial insects, which are more powerful in combatting insect pests than any other force in nature and have, in many cases, completely subdued insect invaders that have baffled the entire entomological intellect of the world.

In the particular case of the elm aphis, usually the several species of lady bugs, syrphus flies, lace wing flies, and the larvae of midges, control them, but the aphids possess a slight advantage over most of their natural enemies by being able to propagate at a slightly lower temperature, and, in certain years—like the present—gain quite a start before they are overtaken and controlled—a sufficient start to cause quite a lot of annoyance in the way of dripping "honey dew."

### "Honey Dew" Explained.

To make the matter of "honey dew" perfectly plain, the aphid which is a minute, usually pale green insect, rarely ever attaining the length of one-quarter of an inch, derives its living by sucking the juices from the leaves—only a very small amount of the juice or sap that is pumped from the leaves is utilized by the aphid; in fact, only the salts are used for nourishment. In order to get sufficient of this material an enormous amount of sap must be taken. After the salts are extracted the residue is pumped through two little spouts in the back of the abdomen. This excretion is sweet and sticky, known as "honey dew" and is readily devoured by the ants. This is the way the "honey dew" is produced, and is not by the tree "bleeding," as is generally supposed.

The relationship between aphids and ants has often been described and is one of the most fascinating topics in the whole field of nature study.

### Ants Preserve Them.

The "honey dew" is greatly enjoyed by the ants, which in a surprisingly intelligent way care for the aphids, carry them bodily to better feeding grounds, recognize the necessity for migration and at times assist in these migrations and actually prepare locations in advance of transporation. The term which is often applied to aphids as "the milch cows of the ants" is very appropriate.

Probably the most interesting feature of this insect is in regard to its development, the peculiar phenomenon known as parthenogenesis, which means the virgin birth, i. e., the birth of individuals from a virgin female, and the fact that with most species and during a large part of the year, the young are born alive, and the early age at which offspring begin themselves to reproduce—simply a matter of days—accounts for their extreme prolificacy.

As to their control: Early in the spring there are but a very few scattering individuals of the pest. By propagating their natural enemies artificially, or holding them over in the adult stage in cold storage, so as to liberate them against the pest at this stage, is the proper manner in which to combat the pest. The lady bug will prevent the aphids from becoming sufficiently numerous to be troublesome and will prevent the dripping of "honey dew," yet enough aphids will remain on the trees to feed the lady bugs and perpetuate their species, thus restoring the natural condition, known as the equilibrium of nature. By the introduction of quantities of lady bugs at the present time the annoyance can be minimized for this season. In this case, as in others, prevention is the true solution, and this can be accomplished by the introduction of lady bugs at the proper time, thus destroying the producers of "honeydew."

### Sparrows Are Enemies.

Sparrows are certainly a disadvantage to the lady bugs. In this city undoubtedly they destroy quite a number of the larvae, or young. On the other hand, I have repeatedly observed sparrows on many occasions eagerly devouring the aphids and passing the larvae of the lady bugs by. With such a bounteous supply of food in the shape of aphids, I believe their destructiveness to the lady bugs is largely offset by their equally voracious appetite for aphids.

### Are Hearty Eaters.

Many persons are under the impression that it is in the adult stage that the lady bug destroys the most aphids. While a great many are eaten in this stage, it is in the larvae or young stage, that the largest destruction of the aphids occurs. The adult lady bug deposits its eggs which are yellow in color, in little clusters on the leaves, standing them on end and in clusters of from four to a dozen, scattering them among the pest. These eggs hatch into minute crawling cigar-shaped larvae and feed and grow to the length of nearly a half inch. From this they pass into a quiescent stage, known as the pupae, fastened by the posterior portion of the body to the leaf. This gradually bursts open and the molted skin remains on the leaf and the lady bug issues as an adult. About twenty days is the average life cycle from egg to maturity, and each female lays about 125 to 150 eggs. It will be seen from this that their reproductive powers are enormous.

### Value of "Bug vs. Bug."

This work of preventing outbreaks of pests in the commercial orchards is the real work of the State Insectary. These friendly insects, colonies of which are daily sent out to the commercial orchards, may in reality be compared to a system of "firemen." It is in preventing loss that their real value lies. They work unseen and their worth is not known or appreciated until a condition arises like the present, which shows what will and does happen when their presence and influence is removed.
—E. K. Karnes in Sacramento Union.

# Live Stock and Dairy

By Mrs. Minna E. Sherman

Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

## TATTLINGS.

THE beauty of the dairy cow was not considered as after all of much account until within the last ten years. Now beauty is known to mean perfection. If we were all perfect physically as human beings we would be beautiful. Now in the human family other qualities of mind and soul attract rather than mere physical points and beauty is not reproduced. After all I never saw a woman of great beauty of form and feature who was not of the cow like type, that calm tranquility that goes with overpowering beauty and gives rise to the idea that beauty and brains do not go together.

### Dairy Marks.

A few years ago one dairy authority gathered together the forms of the great producing cows of his state and concluded that the high pelvic arch was one mark. This point was bred for, until the tails of the cows were hung on at an angle that was really the reproduction of an accidental deformity. Dr. Haring of the University told me that he had tuberculin tested cows that were so badly deformed that it was difficult to take their temperatures. Another fad was to consider that any part of the cow that did not directly belong to the milking or manufacturing portion was useless. The broad chest and deep heart girth as well as the large stomach were cut down and the cow was reduced to a wedge shape with the front of the wedge narrow to the point of contracted lungs and cramped heart. Then another wedge shape was put on her to take out the little breadth she had left by making her wedge shaped on top or as one looked down on her. Fortunately this idea has passed and it is recognized that a cow must have room for the functions of her body to be carried on within her frame in a vigorous manner and that she must have a good digestion and a large stomach to carry plenty of food.

Now to go back to that raised hump at the tail, how could the enlargement of a vertebra of the spine into a deformity of bony tissue up on the top of a cow's back increase the milk yield? The hump farther forward on the draft horse has not been considered as a mark of great strength. The strongest pulling mare I ever owned had this lump, but I never considered that it helped her pull a load any better and it certainly did not add to her beauty. The great and almost perfect legs, loins and shoulder muscles of this mare and the intelligence with which she slowly threw the weight of her 1900 pounds against the collar while her feet gripped the ground with bent knees started the load slowly into motion.

### Educate the Eye.

These irregularities must be bred out of the horses and cows alike. The deformity of the tail in cows in the state referred to before, probably sprang from one or two cows that had proven particularly good and whose sons were used extensively as sires to improve the country stock. They were successful transmitters of both deformities and performing ability. Educate the eye for beauty and breed to style in the herd. The dairy herd should reflect the master's mind and grow into a type of its own by his successful blending of the various animals.

### Varied Foods.

Surroundings and similar foods make in time for likeness in animals. While the cows are sometimes far from their native habits, it is well not to make them too artificial. The bovine is a browsing animal as well as a grazing one and a little rough feed is relished. I often watch the cows eat the leaves and twigs off the branches of either willow or poplar trees that break off in the pastures. A large cottonwood limb fell this morning and in a few minutes the cows had left the alfalfa and were crowding around reaching over after the leaves like a lot of children. In an hour it had been cleaned off down to the large limbs. The cows needed that browsing rougher food and will be better for it. Corn stalks have a feeding value in this way greater than their actual available nutriment, but they must be used only in moderate quantities as a helper out of the richer foods. Alfalfa is the main standby in the dairy. It has largely taken the place of bran. It will always be the source of protein; and when we have selected the corn a little longer for California conditions we will double our crops. In ordinary years ten tons to the acre is a yield that is cheaply gained from the cornfield, while with a little cultivation and fertilization twenty tons can be had fully as readily from each acre to fill the waiting silos.

### Bran.

The high prices of all the by-products, as bran, have grown with the increased use of breakfast foods. The foods our fathers fed their cattle have become the diet of our children. This will drive the dairyman more and more to alfalfa and corn as his best feeds, ones that he can grow at home and that cannot be cornered in price as wheat has been, before it reaches the cow's stomach At present it looks as though butter fat were being cornered by the trust creameries, and the Farmers Union is making an effort to stop it by making pools of butter fat among the dairymen. While we hope great things from this movement, still we have been in several raisin associations, always to hold the umbrella and to receive less personally for our raisin crop than when we went it alone and sold for what we could get the commercial packer to pay us for the goods. The horses on the ranch are growing fat on raisin diet this year, and the cows will have a few in their grain though they cannot be fed on raisins exclusively. The horses on the back of the ranch, five in number, have been on raisins alone for two months and are fat and thrifty. So

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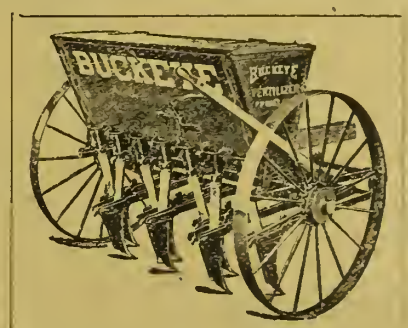


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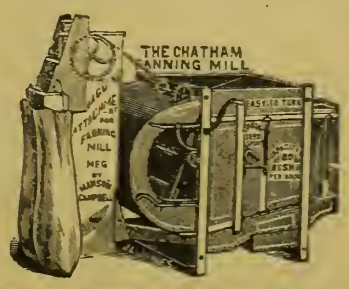


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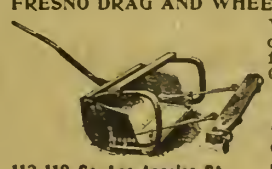

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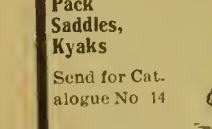




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it is well to reverse the rule of the old farmer, "Feed the best and sell the rest." The rest is hard green peaches now going East, while wholesome raisins are going to the barn and pig pens.—M. E. Sherman.

## THE LOCO DISEASE OF LIVE STOCK IN THE WEST.

The so-called loco disease of horses, sheep, and cattle has been for many years a source of serious loss to stockmen in the West, who have generally attributed it to certain weeds eaten by the stock. Investigations by the United States Department of Agriculture have not only confirmed the supposition as to the poisonous effect of these plants, but have resulted in the discovery and identification of barium as a definite poisonous element in them. Feeding experiments establishing the fact that the plants are responsible for the disease were carried on under field and corral conditions by Dr. C. Dwight Marsh, while the discovery of barium was made in the laboratory by Dr. A. C. Crawford.

The loco weeds are a class of leguminous plants of which the principal ones are the purple loco weed (Astragalus mollissimus) and the rattleweed (Aragallus lamberti). One or both of these prevail to a greater or less extent over an area including all or parts of Montana, Wyoming, North Dakota, South Dakota, Minnesota, Nebraska, Kansas, Colorado, Utah, Arizona, New Mexico, Texas, and Oklahoma.

The characteristic symptoms of the disease are a slow, staggering gait, rough coat, staring, vacant look, and emaciation. The affected animals have hallucinations, can not be led or backed, show more or less lack of muscular co-ordination, gradually lose flesh, and die. The affection comes on in a slow and cumulative manner, and there is no possibility of animals becoming immune by continually eating the plants.

The proverb "An ounce of prevention is worth a pound of cure" applies to this disorder. Although good results can often be obtained by the treatment of locoed animals, the most effective way of dealing with the trouble is to keep animals from eating the loco plants. Wherever practicable the weeds should be exterminated from the range or pasture, and the best way of doing this is simply to cut them out. This method, however, while often practicable on land under private control, can not very well be applied to the public range. In many cases much can be accomplished by keeping animals away from loco-covered ranges during the time when feed is short, as they are much more likely to contract the habit at such a time. It may sometimes be profitable to feed them for a short time in order that the loco-eating habit may not be formed.

After animals have become affected the first essential in their treatment is to place them where they can not eat the loco weeds. They should be given plenty of nutritious feed, and so far as practicable, feed with laxative properties, such as green alfalfa. Some may recover under this treatment without recourse to medicine. With most animals, however, recovery is hastened by medicinal treatment.

As a result of its experiments the Department of Agriculture suggests the following treatment: For cattle, strychnine in doses of three-twentieths to four-twentieths of a grain daily, administered hypodermically. For horses, Fowler's solution of arsenic in half-ounce doses daily in the drinking water or in the grain. This treatment should be continued for at least a month. To correct the constipation which is almost universal in locoed animals, magnesium sulphate (Epsom salt) may be administered as a drench in 2-ounce doses. Epsom salt may also serve to some extent as an antidote to the poison produced by the weeds. Beneficial results have also been obtained by giving horses daily a drench containing 2 ounces of Epsom salt with 10 drops of dilute sulphuric acid, and by giving cattle tri-weekly 3 to 4 ounces of Epsom salt with a proportional increase in the quantity of dilute sulphuric acid.

As the foregoing treatments are in the experimental stage, the Bureau of Animal Industry, Washington, D. C., would be glad to receive reports of results from their use.

## BRITISH EMBARGO ON AMERICAN HAY AND STRAW REMOVED.

The Department of Agriculture has received information through the Department of State that the British Board of Agriculture has removed its embargo against the landing of hay and straw in Great Britain from the States of Pennsylvania, New Jersey, New York, Maryland, and Delaware, to take effect immediately, and that the board would now have no objection to the withdrawal of any restrictions which may have been imposed on the exportation of hay or straw from the State of Michigan. The embargo referred to was declared several months ago because of the outbreak of foot-and-mouth disease among animals in Michigan, New York, Pennsylvania, and Maryland. The disease was stamped out by the Government and State authorities, and the United States quarantine was removed April 24, 1909.

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One of the most extensive and successful swine-raisers in Kansas tells the author this: "Twenty-five years of pasturing hogs of all ages on alfalfa has proven conclusively to me that a fourth to a half grain ration, while they are on such pasture, will produce greater growth per day than when in dry lots on full feeds of corn. Hogs will maintain a reasonable growth, but not fatten much, on alfalfa pasture alone; I believe it profitable to feed them some grain while running on green alfalfa. If it is desired to full-feed hogs, they will make a rapid fattening growth from increasing the grain ration while on pasture, and with the full grain ration the meat will be nearly as firm as that of hogs kept in a dry lot, where grain alone has been fed. I find no distinction on the market between alfalfa-fed swine and those purely grain-fed, and they sell price and price alike. The general health of the alfalfa-fed hogs is equal to that of those maintained on any other feed, and they are prolific."—From Coburn's "Swine in America."

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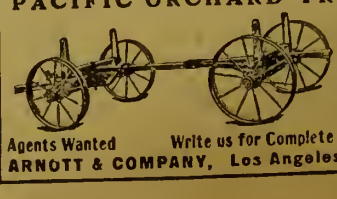

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# Irrigation and Forestry

## CONSERVATION AND REFORESTATION.

THE First National Conservation Congress of the United States has been called to convene in Seattle, Washington, August 26-27-28, 1909. Meetings are to be held in the grounds of the Alaska-Yukon-Pacific Exposition, and the management of the Congress will be under the auspices of the Washington Conservation Association.

The Conservation Congress promises to add several important chapters to the pages of conservation in the great books of American resources. Prominent among the subjects to be discussed is that of Reforestation in its relation to the general topic of Conservation, which implies a practical knowledge of how to utilize the natural resources of the country for the benefit of present and future generations.

The State of Washington is one of the largest timber producing sections of the world. The Puget Sound country—known as Western Washington—originally contained forest areas comprising 8,000,000 acres. The timber of commercial value comes from the fir, cedar and hemlock trees. Many mills have been established in various localities and approximately 3,000,000 acres have been logged-off, or shorn, of the marketable standing timber in the State of Washington alone. How to reforest those areas and thus insure permanent incomes to the lumbermen and farmers of the future, is one of the problems confronting the conservationists. On the proper solution of the question depends much of the financial prosperity of coming years.

Reforestation is one of the living questions confronting all of the American people today. When a marketable tree is cut away from the forest it represents the growth of centuries. It cannot be replaced in a day, and in some cases cannot be renewed within a generation of the human family. In many instances the marketable trees occupy positions of more than ordinary importance. They hold the key to the secret of the maintenance of watersheds and reservoirs of moisture that supply the valleys below with water for domestic and irrigation purposes.

The cutting away of the trees in such instances results disastrously to the water supply needed for driving the wheels of machinery supplying the homes with one of the necessities of life and furnishing to the soil that which it must have in order to produce satisfactory crops.

The conservation movement is intended to take the initiative in preserving and protecting all of the natural resources of our country. The forests, forming the foundation of so much wealth and prosperity, are naturally the first to be considered. To properly reforest the denuded districts will demand the attention of the combined forces of State and Nation. One man alone cannot do much in reforestation because of the necessity for co-operation if forest fires and general waste are to be prevented.

The time has come when all should be interested in the subject of reforestation. Men should be encouraged in every legitimate way to plant and cultivate forests. It is a part of the legitimate work of the farmer and of the land owner.

In China the man who plants a tree for future use is considered a philanthropist and is honored for his work. Such should be the case in every section of the United States.

Object lessons showing the results of wasteful methods in logging and lumbering are noticeable in every section of the country where forests formerly adorned the hills and mountains.

A few years ago the people of Ohio and Kentucky cut away the native walnut trees and peddled the logs at local sawmills for merely nominal figures. Today they are digging up the roots and selling them for more than the original trunks brought a quarter of a century ago. Sawmills are being displaced by veneering plants that utilize the second growth saplings for making a substitute for hardwood furniture.

The conservationist has something to do now in working for a change in the system of handling the forests. The time has come when prompt action is necessary in order to insure a continuation of the sources of raw materials for the future, and without endangering the legitimate industries of the present.—Joel Shomaker, Chairman, Washington State Conservation Commission.

Irrigating Ditch in Calexico. Courtesy Calexico Chronicle.

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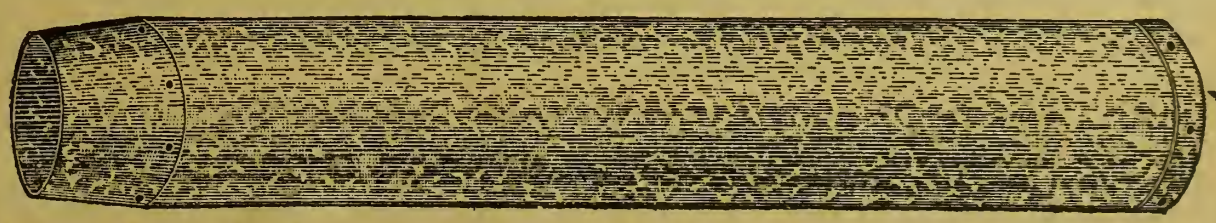

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# Small Fruits and Vegetables

## MANURING THE GARDEN.

MANURE from the cow stable is mild and may safely he used on the garden either fresh or well rotted. Manure from the horse stahle is very strong, quickly heats and should be spread very thinly upon the plowed or spaded soil. If used in large amounts immediately before planting it is liahle to heat and dry out the soil and burn the roots of the plants, causing them to die. Sheep manure is also very rich, but it does not readily heat and may be safely used under almost all conditions. A little of it will go a long way. Hog manure is also a splendid garden fertilizer.

Poultry droppings are the richest and best of all garden fertilizers. They are very concentrated and contain a large proportion of mineral matter, hence they should be used in connection with milder manures that contain an excess of organic matter. Coal ashes are often sprinkled on the droppings in the poultry house to keep down foul odors. In doing this, the ashes ahsorb rich portions of the droppings, which makes them more valuable for use. The coal ashes have no particular fertilizing value in themselves, yet they help to lighten heavy soils and make all soils more retentive of moisture. The mixture of poultry droppings and coal ashes makes a safe and valuable garden fertilizer.

Another good way to use poultry droppings is to mix them with cow manure. The droppings are strong and cow manure weak, hence the mixture supplies a well-balanced plant food. A good plan in handling them is to clean out the henhouse and cow stahles daily, throw the cleanings together in a heap and haul and spread them on the garden as time permits. It is also a good plan to pile together in the same heap and mix well together all kinds of manure and organic refuse. With them may he mixed commercial fertilizer—lime, rock phosphate, hone meal and others. Commercial fertilizers, being concentrated, nearly always give best results when used in connection with stahle manure containing a liberal proportion of litter. Coal ashes and ground rock phosphate may he used in the stable as an ahsorher of liquid manure, and thus be made to serve a douhle purpose. Wood ashes should never he used on poultry droppings or as an ahsorber of liquids in the stahle, as they contain active chemicals which liberate nitrogen compounds of the manure and allow them to escape and hecome lost in the air. Wood ashes are a splendid garden fertilizer, containing valuahle potash and lime, yet they should be used only as a top dressing immediately preceding planting of crops. Wood ashes are very soluhle in water and if applied to the soil at any other time or in other manner, their richness is dissolved out by rains and much of it hecomes lost.

## CUCUMBER SEED.

In answer to a Cultivator subscriber who has a couple of acres in cucnmbers and wishes to know how to screen the seed. Mr. Lobingier sends the following:

Give good clean cultivation and abundance of water until the cucumbers have about fully developed when you can allow them to ripen up, withholding water and cultivation. For that area, you can make a hand press of the crudest kind that will enahle you to squeeze out the seeds very rapidly.

We used a common trestle such as carpenters use, upon which we mounted a hox that was ahout 8 hy 10 inches and 6 or 7 inches deep with a hole on the side about 1½ by 2½ inches for the seeds and pulp to pass through and drop into a tub that should set underneath the trestle. An upright piece ahout 20 inches long was fastened to the trestle near one end and a lever fitted into it and fastened with a one half inch holt, and a piece of 3 hy 4 about a foot long was securely fastened to the lever directly over the hox. The seed were pressed out one at a time by raising the lever up high enough to drop a cucumber into the box and then pressing the lever down, after which the lever was again raised and with the left hand the broken cucumber was tossed out on a pile, and the seed. would slide into the tuh.

The cucumbers must be ripe enough to mash easily, but not decayed. As the pulp is very slippery at that stage almost every seed will be pressed out.

When the tub is full, the seeds with the pulp, must he transferred to a barrel and allowed to ferment, when the seeds will separate readily from the pulp and hy washing through a couple of waters and running through a sieve, will come out perfectly clean.

Care must be had to make the barrels only half full at first as in the process of fermentation the mass expands like yeast and if made full the seeds would run over and he spoiled. After fermentation goes down two or more can he put into one and save space.

The harrels can stand out in the open if necessary with only a sack thrown over the top until they are washed. The drying should he done in the shade on shelves of hurlap and the seed spread upon the burlap not deeper than two inches and stirred with a hoe a couple of times per day. When partially dry it can he placed deeper on the trays to save space.

We made a frame of 1 hy 3 pine, 12 feet long hy 6 feet wide and 6 feet high and nailed 1 hy 3 strips across the ends and around the sides every 15 inches and hrought hurlap 6 feet wide and stretched across for the shelves and set this frame in the barn where there was a good circulation of air but shade and it gave us a very clean hright seed. When dry it was sacked and suspended to the cross heam in the harn where it kept perfectly until sold.

The method of pressing out the seed may seem tedious and slow but I once pressed out the product of six acres in less than ten days with two men and two hoys. We hauled the cucumhers in large piles at convenient stations in the field and made a platform beside each press so that the man working it could reach a cucumher with his left hand without stooping—using his right hand to work the press, and it was surprising how rapidly it was done. The hoy kept the platform filled with cucumbers and transferred the seed from the tubs to the barrels. When one pile was used up the fixtures were moved to the next pile. We found it an advantage to nail a piece of hoard on the hottom of the press that was ahout an inch larger all around than the bottom of the 3 hy 4. This gave a larger surface to bear down on the cucumber.—Q A. L.


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# The Ornamental Garden

## GLADIOLUS AS A MONEY CROP.

I BELIEVE that the best opportunity at present for a money crop in the way of flowers that can be grown by the average gardener without special experience in florist work is in the growing of gladioli flowers and bulbs for sale.

It is especially suited for the woman who wants to grow something for a side line—something she can grow in her own garden without expensive preparation and without professional knowledge.

The gladiolus is probably the most easily grown flower known, and I consider it one of the most beautiful. It will grow and bloom in any kind of common soil. It needs no more care than onions or potatoes; and in fact, it should be handled in much the same way.

It has all the colors of the rainbow, has good size, and will keep for two weeks after it is cut. What other flower could do this? They are growing in popularity, and are in great demand by flower lovers everywhere.

Now, about the commercial side of it. I can tell you best about this by quoting some from a delightful letter received from an old man in Ohio who has made a fine success in selling his flowers. He is a blacksmith living in a little country town in Central Ohio. Here is his description of his garden:

"My lot is five rods wide and ten rods long, and fully half of it is occupied by house, shop, woodhouse, stable, henhouse, dooryard, chicken yard and fruit trees. I have ten Bradshaw plums, eight Kieffer pears and nine cherry trees all bearing, besides six dwarf apple trees, six budded lilacs, also beds of larkspur, phlox and over one hundred clumps of peonies and candidum lilies.

"This I tell you so you can see my lot is not all in gladioli. I have been growing them for twenty years; but for many years, I just cut good blooms and let them go to waste, because I did not know they could be sold. I carried many an arm load through our little village of 600 persons, giving them to this one and to that one, and sometimes finding a liberal-hearted fellow who would give me a quarter in return.

"One day a man visited across the street, and I gave the lady a small bunch to put on her table. This man was the landlord of a hotel in Richmond, Indiana, and had never seen or heard of gladioli before. After dinner he came across the street with the flowers in his hand. I was busy nailing on a shoe when he came around and wanted to know if I was the party who 'growed these flowers.' I told him 'Yes,' and he said, 'You had better quit shoeing horses and go to growing flowers;' and he told me to ship him fifty spikes twice each week by express, and make my own price, for he must have them to put on the table.

"This was the beginning of my first sales, and it amounted to some $10 or $12 to me that season. At that time it was almost impossible to sell any in this little town; but this year I sold sometimes as much as $3.75 in one day; so you can see you can educate the people to buy flowers, if you have something fine.

"For shipping I use a square box or crate made out of three-eighths lumber which is light and strong. This box is open at the top and has a deep, slender tin can in each corner holding water. I set a bunch of flowers in each one of these cans, packing the stems in as tight as they will fit. I mark the crates to be returned to me when empty. When the spikes are large, it will take twelve or thirteen to a can, but later on, when the spikes are smaller, you can get as high as seventeen to twenty in a bunch. I ship in the evening, and they reach their destination about 9:00 a.m. the next day, and I pay 75c per hundred express rate.

"I have possibly three-fifths of my garden in gladioli, and I have netted so far this year (July 22) $113.16 for cut blooms, and there are many in the garden yet to bloom—possibly one-third, yes, fully this much. They have been netting me 4c each, or $4 per hundred. I made my first shipment July 2. Try cutting gladioli when first flower or two opens and put them in water in upright position and set in a cool, dark cellar for thirty-six or forty-eight hours before you ship them."

Now, I have told you exactly what this man tells me about his flowers, and you can see for yourself what he is doing. Any woman with a good garden could do fully as well, and it would certainly make a nice lot of pocket money, to say nothing of the enjoyment and satisfaction to be had from it.

Now, besides the cut blooms, the bulbs are a valuable crop. I paid this man over $150 last year for his surplus bulbs, as I wanted them to add to my own collection. Of course, he has a fine strain of flowers, but probably no better than other really first-class strains.

Now, I do not say that everyone could do this well, but there are hundreds of people who could, and for a flower lover, it would be pleasant work.

The bulblets should be planted thick in rows a foot apart, and tended just as you would tend onions from seed, except that they should be planted deeper than you would plant onion seed. They should go probably about two inches deep.

The big bulbs should be planted about four inches deep and the rows should be about two feet apart, so you can walk between them nicely when they are in bloom. We put the bulbs generally about three inches apart in the row. Each big bulb will make from one to three spikes of bloom, averaging probably a little better than two spikes to a bulb. In the fall at digging time, you will find as many new bulbs as there were spikes of bloom, and besides, you will get anywhere from half a dozen to a hundred little bulblets, so you see that they will increase quite rapidly. Even with the big bulbs alone, you will more than double your stock each year, and with the increase of the little bulblets, you can soon work up a big stock.—St. Jo. Fruit Grower.

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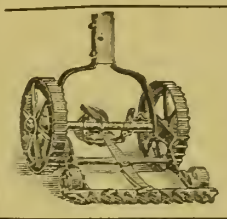

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Thursday, August 12, 1909

Address All Communications to

CULTIVATOR PUBLISHING CO.

115½ No. Broadway, Los Angeles.

733 Merchants' Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY

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Entered at the Post Office at Los Angeles, California, as Second-Class Matter.


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### FARMERS' INSTITUTES.

Farmers' Institutes for Southern California have been arranged by Mr. J. B. Neff to be held in San Diego county as follows: La Mesa, Aug. 23-24; Chula Vista, Aug. 25; Escondido, Aug. 26-27; Capistrano, Aug. 28. Talent from the State University will assist local people in making up good programs at these institutes.

### FUMIGATING TENTS.

As will be seen in the article at the bottom of the first page of this week's issue, there is an effort being made to prevent fumigators from using the Morrill system which has been prepared by Messrs. Woglum and Maskew, illustrated and described in the Cultivator about a year ago. The party who has the patent maintains that it covers the Woglum, or as it is more generally called, the Morrill system. A communication from Mr. Woglum, who is in charge of the field experiments in California, indicates that competent judges have passed upon the matter, and it is perfectly safe for citrus growers to use this system of measuring the cubic contents of tents after they are drawn over the trees. It would certainly be a great misfortune to the industry were this not the case, for this system has proved most satisfactory and has made the percentage of successful work vastly greater.

Since the very first, fumigation has travelled a hard road. Old timers in California remember that years ago when it was first suggested, there was a continual fight for a few years with those who claimed patents on the process. It has so far been absolutely in charge of the orchardists and we trust that with its improvements it will remain so.

### MUNICIPAL FORESTS.

In the issue of July 29th we referred on this page to possible income of cities from forests maintained similarly to the municipal forests of Germany. Since then we notice that a few cities of the New England states are taking up the matter and planting forest trees over water sheds which control the water supply for their domestic systems. More recently the Pennsylvania state legislature has passed an act permitting cities to acquire municipal forests, and some of these cities are buying waste lands at the sources of their water supply. These lands will be planted, and as the trees come to maturity they will be intelligently disposed of to lumber dealers. The Pennsylvania act contemplates the issuance of bonds by the municipalities to raise funds for the acquisition of such lands and maintainance for the first few years. Before such lands are purchased, permission must be obtained from the state commission of forestry which makes subsequent provision for their administration.

If this matter has interest for Eastern municipalities, it has for those of the Pacific Coast, and especially to anyone connected with agricultural industry.

### GRAPE INVESTIGATIONS.

The investigations which have been conducted by G. Harold Powell and his corps of workers will soon be discontinued in the citrus section. The greater part of the workers will be transferred to northern and central California to grape shipping points. Mr. Powell informs us that the citrus investigations will be left in charge of one or two of his eight assistants, who will remain in the Southern California lemon houses the year through. The others w go to Lodi and from there will be directed a campaign of grape investigations which it is hoped will succeed in extending the grape season and increasing the field of distribution. An effort will be made, through cold storage, and the handling of the grapes on the vines to keep them later in the season. Probably the greatest difficulty in the past has been through crushing the individual grapes in the packing. This has been in part corrected by Mr. Powell's investigations last year. He finds that the Lodi grape growers are entering heartily into this work and aiding him in every way possible.

### AN EFFICIENT WORKER RETIRED.

We have information that Dr. R. H. Loughridge, for many years Professor of Physics and Chemistry of Soils in the State University, has been made Emeritus Professor of Agricultural Chemistry. If this means the retirement of Dr. Loughridge from the active work of aiding the farmers of this state and instructing the young in this most important agricultural practice, it will be learned with regret by all. Dr. Loughridge is one of those modest men, who has earned the heartiest respect of all who know him. This retirement will be directly felt, as we note that the work of examination of soils sent by farmers has been stopped, also class instruction in soil physics and soil chemistry, no one having been found to take up Dr. Loughbridge's work for this year. The readers of the Cultivator who have recently been inquiring as to possibility of soil analysis at the State University should bear this in mind.

### GREEN MANURE CROP SPECIAL.

The Cultivator is already receiving material for the green manure cover crop articles which will appear in an early September number. One of the most practical observers in Southern California has just sent in a bunch of suggestions which will prove of value. We mention this now that those who have been observing the handling of cover crops in California and have items of interest, may send them in so that we may have all matter before the first of September.

### "FIRE THE JAPS."

Bakersfield recently waked up one morning to find the town plastered with placards on which was printed, "Fire the Japs." These bore the imprint of the Typographical Union of Seattle and were perhaps meant to inflame feeling against the Jap laborers who are in large numbers in Bakersfield and surrounding counties.

The Japanese question is a serious one on the Pacific Coast and needs to be discussed in a cool and sensible manner. We hope some solution will be found for it which will be fair to American labor and American producers. We do not believe a campaign similar to this at Bakersfield will succeed.

### ADVERTISING AND ADVERTISERS.

It is fair to presume that our readers are more or less interested in the advertising announcements in the paper, and there is certainly a fair amount of satisfaction in purchasing a good article at a reasonable price. How best to know what particular machine is most suited to your requirements would involve a discussion too long for our columns. Every issue contains scores of announcements concerning the latest improved farm implements, dairy supplies, gas and other engines, and in fact almost every article of practical use upon the farm or fruit ranch, in the dairy or poultry yard, or for supplying or increasing the water supply.

Suppose you want anything along any of the lines so freely advertised. You go to some particular or local dealer or manufacturer, and it is to be presumed that he will expatiate upon the special merits of his favorite machine. Perhaps his goods are all that is claimed for them, but you have no practical evidence to support your judgment except his assertion. The purchase may or may not be satisfactory. Would you not be better equipped to use good judgment in making a wise selection if, before purchasing, you had corresponded with different dealers and, by the study of booklets, catalogues and advertisements, secured a certain amount of knowledge of the merits claimed by different dealers and manufacturers? Investigate on your own account and do not take too much for granted. For this reason we recommend a careful study of the advertising columns of the paper.

### THE MARKING OF FUMIGATION TENTS.

(Continued from Page 147.)

tents, the method consisting merely of a series of concentric circular lines. The system of graduated marking of tents utilized by me in my work in this state is entirely different from the Payne method, and is protected by patent No. 902,674 issued to A. W. Morrill, a special agent of the United States Bureau of Entomology. This Morrill patent being issued to a government employee may be used by any person in the United States without payment of any royalty thereon.

After a thorough investigation of the situation, the Solicitor of Patents of the United States Department of Agriculture informed me that the patent on the government system (Morrill's) of marking tents is incontestable in any way. Therefore I would advise those people interested in fumigation to pay no heed to the contentions or threats of Mr. Payne or his agents, but continue to utilize the government system of marked tents to their fullest desire.—R. S. Woglum, Special Agent U. S. Bureau of Entomology, Whittier.

## Shop Talk

It is generally understood by our readers that subscriptions are not discontinued at expiration unless requested. We like to make the matter clear, however, so no misunderstanding can result, therefore we ask that in case of removal or for any other reason the paper is not wanted, we be notified by mail.

Our traveling representatives have positive instruction to report all such requests and it is only through error that any do not receive attention. If more than two papers come after notice is given, you may know such notice did not reach us and another postal is necessary. Only let us know your wishes and a "square deal" is assured. We are only human; some mistakes are made; requests to stop are not the orders most desired by us, but it is not our wish to force the paper upon those who do not want it.

# Agricultural Notes of the Pacific Coast

## Northern California

Nevada county has shipped its bumper crop of fresh prunes and Bartlett pears.

Some hop growers near Santa Rosa predict a price of 25 cents for this season's hops.

Arrangements are being completed for an annual fair at Eureka September 13th to 18th.

Two hundred and fifty acres of Moravian wheat at Red Bluff averaged 30 sacks per acre.

Garden peas in the neighborhood of Ferndale are being injured by an insect recently introduced.

The California state grange will hold its next annual meeting in Petaluma the first Tuesday in October.

Sonoma County Pomona grange has adopted the policy of meeting with the various subordinate granges turn about.

Prof. Major of the State University is looking for high-grade cattle, sheep and hogs for stocking the state farm at Davis.

Glenn county farmers succeeded well in the growing of chul wheat which has been sold at prices ranging near $4.50.

Scarcity of cars which proved so embarrassing a few weeks ago has been to a certain extent overcome and fruit pickers have returned to the orchards.

Swamp and overflowed land in District 609 in Sutter Co. is being resurveyed and will be included in the larger reclamation scheme.

The State Grape Growers Association is becoming more active in watching the interests of its members and is now holding meetings in many sections.

P. H. Dorsett, Chief of the Plant Introduction Gardens of the United States, has suggested the possibility of largely increasing the capacity of the government plant introduction gardens at Chico.

Levees along the Sacramento near Jacinto, Glenn county, are washing away and threatening much damage.

The injury to hops from the red spider is proving more serious than at first anticipated.

The Sacramento Valley Development Association has adopted a resolution that the sum of $50,000 a year be raised for the next five years for the purpose of advertising the resources of Northern California.

The big sugar factory at Hamilton, Glenn county, is compelled to defer opening owing to shortage of beets. It is hoped the coming season will witness the planting of at least 18,000 acres of beets in the neighborhood of this factory.

It is rumored that active work will soon begin on big reclamation schemes in Sutter and Sacramento counties. It now appears that the Natomas Consolidated which is financing the scheme will spend large sums in building immense levees.

Notices of appropriation of water, aggregating a total of 660,000 miner's inches have been filed with the county recorder of Lassen county on waters of the Honey Lake Valley. It is understood this is in the interests of the Honey Lake Land and Irrigation Co.

## Central California

Tulare has in contemplation an alfalfa meal mill.

Kerman, Fresno county, is assured a creamery in the near future.

The Kern County Fair Association will open its fall exhibition September 6th.

Modesto estimates that its output of grain this year will be a third less than last.

The Watsonville Pajaronian reports a material shortage in the apple crop this season.

An effort is being made to make this year's pack of the Pajaro Valley apples the finest ever.

Large shipments of peaches at Kerman recently exhausted the supply of tissue wrapping paper.

The farmers union has secured the use of the big packing house of the California Seeded Raisin Co. at Fresno.

Considerable wheat remains in Tulare county unsold, the holders being determined to have the top of the market.

The high price of orange nursery trees last year has induced the starting of a large number of nurseries in Tulare county.

It is estimated that San Joaquin county's hay and grain crop will increase in value over that of last year over one million dollars.

It is now estimated that the Tulare county citrus crop will be rather short. One large grower has placed it at sixty per cent of normal.

Many newcomers are finding profitable investments in Kings county, perhaps more of them entering into the dairy business than any other one line.

County Entomologist Earl Morris of Santa Clara reports that the condition of the orchards of the county is most satisfactory, though some dieback has been observed in some sections.

Many lemon orchards of the Tulare county citrus section have been re-budded to oranges, which has lowered the supply so that this year lemons for local consumption were imported.

The upper sections of the Tuolumne River and its various forks are being surveyed by the Turlock-Modesto Irrigation Company to secure information as to storage reservoir site and to make estimate of costs.

Maple Grove creamery of Hanford is finding profitable business in the manufacture of ice cream, not only for local trade but in the surrounding towns. This creamery handles much cream which is separated on the farms by hand separators. A friend of the Cultivator inspecting this plant reports that it is thoroughly up-to-date in every way.

Quoting from a Texas paper, the Visalia Times says that the paper vouches for the fact that Texas is now growing cucumbers four feet in length. The paper is honest in stating, however, that at the time the measurement was made it was without a tape line and the figures were estimated. The Times then adds that a couple of years ago it exhibited cucumbers that were "several" feet in length. We presume these must have been much longer than four feet.

## Southern California

The Valencia crop is much larger than ever before.

Barley at Perris is running 110 pounds to the sack.

The annual Grape Day of Escondido is September 9th.

A grass fire near Hemet last week destroyed much hay and grain.

The dried apricot crop of Orange county will approximate 2,000 tons this year.

Tree Warden Reed, of Riverside, is making Riverside worthy of the name "Forest City."

The cotton crop of Coachella and Imperial Valley is showing up exceptionally well.

The United States Committe on Irrigation will visit Imperial Valley September 24th.

Imperial hog raisers are asking for a packing plant which will handle their stock at home.

The grain crop in Ventura county is said to be more than sixty per cent better than last year.

The walnut crop will be a normal one, though some dropping is still manifested from blight.

An expert is handling a squirrel poisoning campaign on the Cleveland National Forest Reserve.

A Calexico nurseryman has an orange seed bed and will endeavor to raise citrus nursery stock.

Preparations are being made for Grape Day at Escondido, which is becoming a regular annual fete.

The buildings for the new creamery at Brawley are being erected and will be ready for work by October 1st.

State Forester Lull, recently visited Imperial Valley to investigate as to varieties of eucalyptus which will do best there.

The Cucamonga winery now claims the largest fermenting cellar in the world. It is of stone with 20 foot walls and is 150x400 feet.

A gentleman from San Antonio, Texas, is investigating citrus conditions in Riverside, hoping to secure information of value to Texas orange growers.

Imperial Valley is experimenting with a new hay which it is thought my be equal to alfalfa. It is Para hay, or Panicum Molle. It is reproduced by cuttings.

Prof. Shammel was tendered a banquet at Riverside last week. The Professor is about to take up the work of improvement of the orange, and it is possible will spend several years in Southern California.

The first branch of the farmers union to be organized in the Imperial Valley was in the Mesquite Lake District. The officers are: President, D. W. Tyler; vice-president, S. L. Gallagher; secretary and treasurer, John McKinney.

Cabbage growers at Fullerton who sold their crops to a shipper who afterwards refused to pay for them on the ground that he had taken them merely on consignment, sued for the amount of the purchase price. The matter passed to the Supreme Court and Appellate Court and, has finally been decided in favor of the growers and they will receive their money.

## The Coast

Eggs are now selling in Seattle at 36 cents per dozen.

North Yakima, Washington, is shipping apples to Finland.

The last shipment of cantaloupes from Arizona was made last week.

Private capital is engaging in a large irrigation project near Spokane.

Berry growers at Kenwick netted $250 per acre on strawberries this year.

Wheat growers at Dayton, Washington, averaged 55 bushels of wheat per acre.

The sugar factory at Glendale, Arizona, has practically completed its season's run.

The 17th National Irrigation Congress is in session in Spokane, Washington, this week.

Streams supplying Arizona farmers with water are running fuller than last year at this date.

The lake formed by the Roosevelt dam in Arizona is the largest body of water in the territory.

There are now 20 forest reserves in the territory of Hawaii, with a total area of $545,764 acres.

Practically all the garden vegetables in the Hawaiian Islands are grown by Chinese and Japanese.

The Ferndale Creamery Company has been incorporated at Astoria, Oregon, with $10,000 capital stock.

Dry farming operations at Ontario, Oregon, have produced the greatest crop of wheat that section has ever seen.

The Idaho State Grain Commission is in session and will fix the warehouse charges for the storage of grain.

Flour mills at Dayton, Washington, were all compelled to close until new wheat arrives owing to shortage of grain.

Pomeroy, Washington, recently shipped an entire train of 19 cars of prime steers, all intended for the Alaska market.

New Mexico is endeavoring to use prison labor in the construction of a "Camino Real" along the line of the old Santa Fe trail.

The apple crop near Sunnyside, Washington, promises to be one of exceptional quality and larger quantity than heretofore.

The earliest apples to be exhibited at the A-Y-P Exposition by any county in the State of Washington came from Benton county.

R. H. Forbes of Tucson, Secretary of the Arizona Horticultural Commission, has been making an extensive study of the citrus pests of Florida.

A large brush dam across the Tempe near Mesa City was destroyed by fire recently, causing much loss to those depending upon the stream for irrigation.

Asotin county, Washington, created a sensation at the A-Y-P Exposition by exhibiting a seven tier box of cherries which were pronounced the finest ever exhibited.

The country in the neighborhood of Pullman, Washington, was given a two and a half inch rainstorm within 36 hours, which is the heaviest ever recorded at this time of the year. It did great injury to grain fields.

**FOR MOULTING HENS**

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West Coast Egg Food has been the leader for many years. It is even better this season. We know how to make rightly balanced rations. That is our business. And we have the best equipped mill for doing it. No unsound grain, no mill refuse and such stuffs in ours.

Send for Biddy Booklet with many testimonials. Ask your neighbors, for there are more West Coast Poultry Foods fed in Southern California than all other kinds put together. If your dealer doesn't sell "West Coast" don't take others "just as good," but send to us and we will serve you right.

75-lb. sack, $1.90; 90 lbs., $2.25; 100 lbs., $2.50; 50 lbs., $1.30.

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**Cor. Griffin and Alhambra, Los Angeles**

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# Profit in the Poultry Yard

By Mrs. Frank Metcalf

**We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.**

### TRAP NESTS.

IN ALL the experimental work with laying hens at the Maine station use is made of trap nests. During the past year a new type of trap nest has been devised which is proving extremely satisfactory. The features in which this nest is superior to the type formerly used at the station are (1) certainty and precision of operation; (2) greater simplicity of construction, with less tendency to get out of order and work badly; (3) saving of labor in resetting the nest after use.

The nest is a box-like structure, without front, end, or cover, 28 inches long, 13 inches wide, and 16 inches deep, inside measure. A division board with a circular opening 7½ inches in diameter is placed across the box 12 inches from the rear end and 15 inches from the front end. Instead of having the partition between the two parts of the nest made with a circular hole, it is possible to have simply a straight board partition extending up 6 inches from the bottom, as shown in figure 8. The rear section is the nest proper.

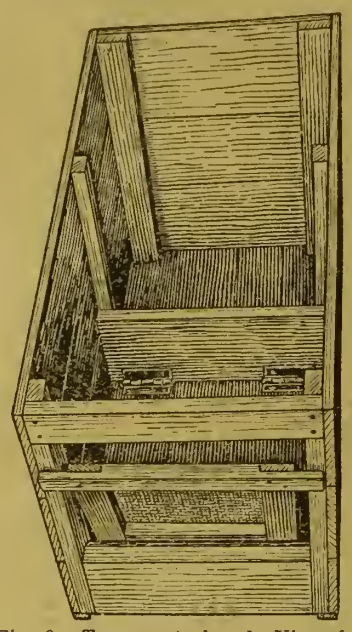

Fig. 8.—Trap nest closed. View from above.

The front portion of the nest has no fixed bottom. Instead there is a movable bottom or treadle which is hinged at the back end (fig 8). To this treadle is hinged the door of the nest. The treadle is made of ½-inch pine stuff, with 1½-inch hardwood cleats at each end (figs. 9 and 10) to hold the screws which fasten the hinges. It is 12 inches wide and 12¼ inches long. Across its upper face just behind the hinges holding the door is nailed a pine strip 4 inches wide, beveled on both sides, as shown in figures 9 and 10. The door of the nest is not made solid, but is an open frame (figs. 8 and 10), to the inner side of which is fastened (with staples) a rectangular piece of ⅛-inch mesh galvanized screening (dimensions 8 by 9 inches). The sides of the door are strips of ¾-inch beech stuff 12 inches long and 1½ inches wide, halved at the ends to join to the top and bottom of the door. The top of the door is a strip of hardwood 13 inches long and 1½ inches wide, halved in 2¾ inches from each end. The projecting ends of this top strip serve as stops for the door when it closes (fig. 8). The bottom of the door is a hardwood strip 10¼ inches by 4 inches. The side strips are fitted into the ends of this bottom strip in such way as to project slightly (about 1-32 inch) above the front surface of that strip, for a reason which will be apparent.

When the nest is open the door extends horizontally in front, as shown in figure 9. In this position the side strips of the door rest on a strip of beech 1½ inches wide, beveled on the inner corner, which extends across the front of the nest. This beech strip is nailed to the top of a board 4 inches wide, which forms the front of the nest box proper. To the bottom of this is nailed a strip 2 inches wide, into which are set two 4-inch spikes from which the heads have been cut (compare fig. 9). The treadle rests on these spikes when the nest is closed. The hinges used in fastening the treadle and door are narrow 3-inch galvanized butts with brass pins, made to work very easily. It is necessary to use hinges which will not rust.

The manner in which the nest operates will be clear from an examination of figures 9 and 10, which show a sample nest with one side removed to show the inside. A hen about to lay steps up on the door and walks in toward the dark back of the nest. When she passes the point where the door is hinged to the treadle her weight on the treadle causes it to drop. This at the same time pulls the door up behind her, as shown in figure 10. It is then impossible for the hen to get out of the nest till the attendant lifts door and treadle and resets it. It will be seen that the nest is extremely simple. It has no locks or triggers to get out of order. Yet by proper balancing of door and treadle it can be so delicately adjusted that a weight of less than half a pound on the treadle will spring the trap. All bear-

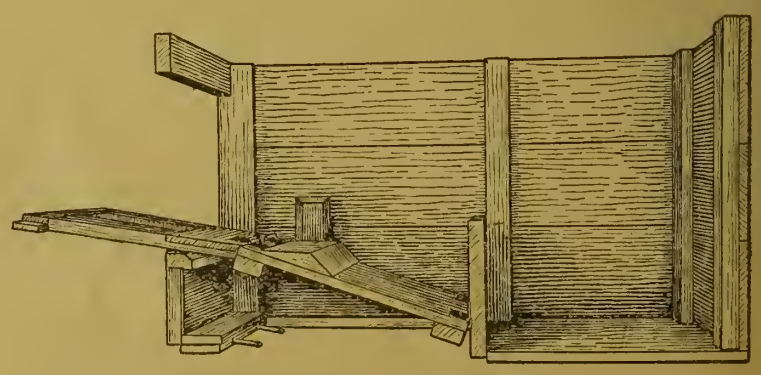

Fig 9.—Trap nest open. One side removed to show method of operation.

ing surfaces are made of beech because of the well-known property of this wood to take on a highly polished surface with wear. The nests in use at the Maine station have the doors of hardwood, in order to get greater durability. Where trap nests are constantly in use, flimsy construction is not economical in the long run. For temporary use the nest door could be constructed of soft wood.

The trap nests are not made with covers because they are used in tiers and slide in and out like drawers. They can be carried away for cleaning when necessary. Four nests in a pen accommodate twenty hens, by the attendant going through the pens once an hour, or a little oftener, during that part of the day when the hens are busiest. Earlier and later in the day his visits are not so frequest. The hens must all have leg bands in order to identify them; a number of different kinds are on the market. The double box with the nest in the rear is necessary. When a hen has laid an egg and desires to leave the nest, she steps out into the front space and remains there until she is released. With only one section she would be likely to crush her egg by stepping upon it, and thus learn the pernicious habit of egg eating.

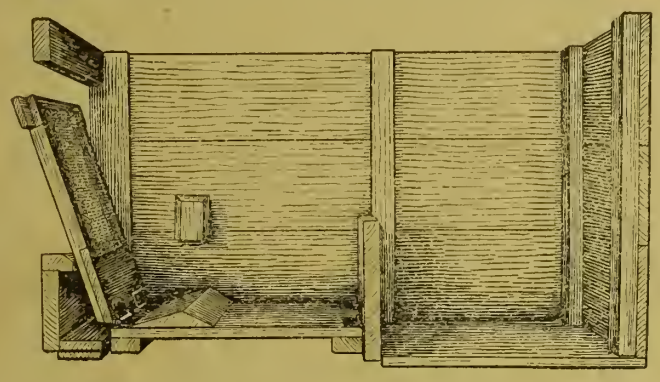

Fig. 10.—Trap nest closed. One side removed to show method of operation.

To remove a hen, the nest is pulled part way out, and as it has no cover she is readily caught, the number on her leg band is noted and the proper entry made on the record sheet. After having been taken off a few times the hens do not object to being handled, most of them remaining quiet, apparently expecting to be picked up.

Before commencing the use of trap nests it was thought that some hens might be irritated by the trapping operation and object to the noise incident to it, but such does not seem to be the case. Trap nests have been used at the Maine station for Leghorns, Brahmas, Wyandottes, and Plymouth Rocks.

The amount of time required in caring for the trap nests can only be estimated, since the attendant's time is divided with other duties. The time varies from one day to another and with the number of nests in use. By noting the total time used each day in caring for the nests when the hens were laying most heavily, it has been estimated that one active person devoting his entire time to trap nests could take care of 400 to 500 nests used by 2000 to 2500 hens. When commencing the year's work he would need assistance in banding the birds, but after that was done he could care for the nests without assistance until midsummer, when the egg yields yould probably be diminished and a part of his time could be spared for other duties—U. S. Bulletin 357.

Don't blame the hens if they are not laying. Place the blame where it belongs, on the one who has the care of them.

## TRAP NESTS AND EGG PRODUCTION.

So much has been written relative to the use of trap nests and the results obtained therefrom, that it has led to the belief that the growing of hens that lay 200 eggs or more in a year is the result of the use of trap nests. Trap nests are valuable for supplying records. They lead to the selection of the hens that lay the eggs; they tell to a certainty just what hen lays each egg, and records of this kind are valuable to those who are building up an egg-producing strain.

There is no other way whereby the poultryman can tell to an absolute certainty just which hen lays the eggs and how many eggs each hen lays in a year. The use of the trap nest has led to the discovery that many hens never lay at all and that other hens lay more eggs in a year than was formerly thought to be possible.

The use of the trap nest has led some to indulge in tales of fancy egg production that is beyond the possibility of hen to accomplish. Several years ago Professor Gowell of the experiment station in Maine published a list of records of laying hens that astonished the world. The writer was always skeptical relative to these statements, believing that a mistake had occurred. We were in nowise backward in stating our opinion relative to these records in personal conversation with Professor Gowell. In the record issued by the Maine experimental station in March the following statements were made:

"The daughters of '200-egg' hens were in this experiment very much inferior to their mothers in average egg production. This is peculiarly true of winter egg production. Daughters of 200-egg hens are not such high egg producers as pullets whose mothers' egg record fell in the 150 or 200-egg class. The daughters of 200-egg hens were most inferior (proportionately) to the unregistered pullets in respect to winter egg production."

These statements lead to the conclusion that there is no certainty that pullets from heavy egg producers will be equal to their mothers in egg production. Hence belief that the production of an unusual number of eggs from a given number of hens is more the result of care and feeding than of breeding. There are strains of poultry that produce few eggs. Egg production can be improved by cultivation. There is evidence that the breeding from egg producers does not insure equal production in the offspring.

We have stated before that we doubted the possibility of hens producing 250 eggs in a year. Hens that produce 250 eggs in a year must extract over 50 ounces of pure albumen from their food. A careful calculation of the quantity of this in 100 pounds of grain, which is about the yearly ration for a hen, will tell whether there is this amount of that element in the food. Something cannot come from nothing. As the average hens are fed, it would be quite difficult for them to manufacture 280 eggs in a year out of 110 pounds of the average grain.—Country Gentleman.


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and up, is what we will sell between now and next July. Our NEXT BIG HATCH will be due SEPTEMBER 6th, order now if you wish to get the low prices on chicks as listed in our chick book. Chicks will positively be raised in price on all kinds in the fall when eggs get high. Contract now for them, and pay a small deposit on them, just send for chick book and full particulars today. We hatch 17 kinds of chicks, ducks, geese, turkeys, etc., in season. We are

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**Coulson's**

**EGG FOOD**

At this time of year the hens are apt to begin falliug off in their laying, and it is necessary for poultrymen to keep them up as long as possible. If they stop laying too early and start molting, they are likely either to take a long time over the molt, or if they molt quickly to have another molt in the late fall.

A scientifically prepared Poultry Food like COULSON'S EGG FOOD, fed at this time will help greatly to keep the hens laying up to and well into their molting time, with consequent satisfactory profit to their owners.

Remember that all egg foods are by no means alike, and it is advisable for you to buy a brand that has stood the test of time.

COULSON'S EGG FOOD is therefore what you want to give you RESULTS, and keep your flock in healthy condition for the molt.

For sale by dealers everywhere. Write for our free book "Poultry Feeding for Profit" with samples of our Poultry Food.

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# Bees and Their Care

By Henry E. Horn, Riverside

### REQUEENING.

I WAS asked recently if it was sufficiently beneficial to re-queen and when to do it.

It is, without doubt, beneficial to improve one's stock; to supplant an old queen with a young one or to re-queen to prevent swarming.

To re-queen for improving the stock, any time is good. Perhaps the best is when the honey harvest is over; queens can be had generally cheaper then, and the colonies need not be disturbed before the harvest.

Any time it is found that a queen does not do good work, she should be killed and a young, vigorous one introduced; but I do not wait for this. In my yards I requeen every second year and if I were running for section honey instead of extracted, I would do it every year. I am thereby not only sure that strong, young queens are in all the colonies but as I do the re-queening before the swarming time, that nuisance is prevented to a great degree also.

For this purpose only queens reared the present year can be considered, as colonies in which queens one year or older are introduced would swarm anyhow, just as if no re-queening was done. For latter purposes the colonies should be kept from swarming until nearly at the opening of the flow, from which the surplus is expected by giving them an extra brood chamber for brood rearing. Then about a week before the honey flow opens the old queen should be replaced by a young one. When the flow opens, one story must be taken away, the other with the young queen left on the old stand, and the brood nest arranged, then queen excluder and supers put on; and the bee keeper can now be quite confident that the bees will do the best work in honey gathering with little danger of swarming.

If the bee keeper works toward non-swarming and he succeeds, he will very materially increase his honey crop. For this purpose I know of no single thing better than the re-queening of all the colonies with young queens just before the harvest.

These removed queens, many of them, are in their prime, and should not be destroyed, unless they are of a breed not wanted or have developed bad qualities. Nuclei should be formed and those queens used therein. One comb containing some brood, one comb with honey and one empty comb or frame, with full sheet of foundation in a hive with perhaps a cupful of bees is sufficient. If care is taken in seeing that they have at all times feed room and protection from inclement weather they will breed up for winter and often have gathered honey enough for winter stores, also.

I do this with the 2-year-old queens I remove in re-queening. If I did not do this I would never find out all the good qualities a queen and her offspring possess, and longevity of bees is one of the characteristics a bee keeper should try to secure.

It sometimes happens that not all the colonies are ready for the super to catch a nearby honey flow; that is, they have failed to fill their hive with brood before the flow. As no honey will be secured in the sections, unless this is done, the bee keeper must take it into his own hand to correct this somehow.

One way is to take all the empty combs out of the hive and to fill the space with division boards. Another way, and one practiced quite extensively, is the uniting of two colonies to make one strong enough for super work. This is done the following way: The two colonies to be united are selected and if they do not stand alongside each other must be gradually moved until they do. The entrance of each must be contracted, say one-half. The open part of the entrance must be on the right side of the hive on the right hand and on the left side of the hive on the left hand. On the sides where the open entrances are, are the frames intended for the uniting. When the time comes to unite, the hive into which these two little colonies are to be put, a division board is put in the middle of the hive, and the entrance closed in the middle also, leaving openings on the outsides to correspond with the entrances of the two old hives. Now the combs from the right-hand hive are put into the right side, and the combs from the left-hand hive into the left side of the new hive. Now a queen excluder is put on and on top of this supers containing the sections.

The bees of each colony, being used to enter, one on the right side and the other on the left, will naturally do so in the new hive also. They will use the same super, but will not mingle in the brood apartment. To all intents they are two distinct colonies, and therefore can, when the honey flow is over, be separated again and put into two different hives to breed up and, perchance, store yet sufficient honey for winter provisions.

But for a short, heavy flow, and to do the largest work in the sections in the shortest possible time, I like best to unite the field bees of a fairly strong colony to the bees and brood of another colony. In this also, the colonies must stand close together, and it is for this uniting of strong colonies I set them always in pairs.

I select a day that honey is carried into the hive quite freely. I then quietly take off the super, if one is on, from one of the colonies. This super, bees and all, is put onto the other colony. The news superless colony is moved to another stand, and the colony, to which it is intended to unite the field bees of the removed colony, is shoved over towards where the other had stood. If the hives stood close together the remaining hive will stand one-half on the stand of the removed, and one-half on its own stand.

All the field bees from the removed colony, being used to enter their hive at the old stand will come back from the field with their loads of honey thereto, and finding the old home gone, will enter into the hive of the other colony.

In this case no fighting will take place, as loaded bees seem to be accepted in any colony. Great care must be taken to give sufficient supers at the time of uniting and to add and take off as occasion requires, otherwise no benefit will be secured. It must be remembered that work is done very fast in supers on such hives.—Pacific Homestead.

### Bees in Riverside County.

I am interested in bees and would like to learn as to whether bees pay in Riverside county. Do they make any amount of honey from alfalfa? How many pounds of honey will one colony make in one season and how much is usually paid per pound?—G. M. Gribble, Bakersfield.

Mr. Henry E. Horn of Riverside, answers: No marketable quantity of honey is made from alfalfa in Riverside county. The amount of honey produced depends upon how the bees are handled. The writer has secured a little better than 100 pounds of extracted honey per colony this season Prices to grower are about one and two cents less to the pound for extracted and comb respectively, than prices quoted in this journal.

Referring to the last paragraph in Mr. Horn's answer, we may say that the quotations given in the Cultivator each week are the wholesale San Francisco and Los Angeles quotations, which accounts for the one and two cent difference necessary for freight, commission and charges.


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# General Agriculture

## ALFALFA IN CALIFORNIA.

REVIEWING conditions as they are in California S. E. Watson of Alameda, writes Hoard's Dairyman as follows:

Alfalfa seed from Chile in 1854 was the beginning of the most substantial basis of permanent success California will ever realize. The gold that the Chilenos took away in those years was poor recompense, and if we could find the grave of that miner we should see that it is always kept green with alfalfa in return for bringing the most valuable treasure of his country to one that almost duplicates it in climate. He also deserves a monument on the theory that he made countless leaves of alfalfa grow where none grew before—therefore a public benefactor.

Gov. Hoard is right in believing that the alfalfa movement is the most important agricultural event of the century. If we in California could realize this fact and appreciate its wonderful promise to the farmers of the state, there would be no doubt in our minds as to our future farm prosperity. The half century of successful alfalfa experience since its introduction has satisfied every dairy farmer here as to its value, and the hillsides of the old dairy region on the coast are losing hold on our real dairyman the foreigner, who has been a renter. The interior plains with irrigation are revolutionizing the business.

Alfalfa was a common crop in Southern California in 1874, within my knowledge, and I have seen its constant increase since that year throughout the state gradually from the sub-irrigated river bottoms to the plains and up the gentle slope toward the mountains as irrigation was developed. The little rivers of the South bring mountain soil in their annual freshets down to the plains of the coast, the great rivers of the North and interior and the countless tributaries have all provided for sub-irrigation along their course, or ditch irrigation on adjoining plains, and a thorough trial of the value of alfalfa. Every farmer in the state appreciates and canvasses the probabilities of growing it, even outside of the irrigation districts.

### Present Conditions.

The years of successful alfalfa culture along the streams of the state proved its importance as a main crop. Its possibilities under irrigation attracted speculators and in the seventies a number of companies were organized to bring the water from the headwaters of the San Joaquin, the Sacramento and tributary rivers out on the valley plains in irrigation districts. In 1871 the first great enterprise was started by Miller & Lux on the west side of the San Joaquin. They were cattle kings and land grabbers and the purpose was, first, to carry their herds through dry years by growing alfalfa; next, to sub-divide for small farming. The latter condition now exists, and dairy farms in that district bring monthly returns as high as $1,000 by sale of cream. Across the valley in the Modesto-Turlock district, supplied from the Tuolumne river, a half-million dollar dam and a net work of irrigating ditches provide water for every acre and these belong to the land and settlers, who pay the cost of service by an annual tax of under a dollar an acre for all the water they may need. Land averages $100 an acre and the soil and drainage are good. Alfalfa is the great mainstay for the live stock interests of the lower end of the valley, where dairying has become the leading one. There are three lines of railroads that carry its products to the competing Los Angeles and bay markets with river transportation to the latter. Great prominence has been given the lower valley for these reasons which brought settlement in advance of the upper valley along the Sacramento.

### The Upper Valley.

The soil for the entire valley region is similar in agricultural value and the high Sierra glaciers and snowfall insure the necessary water for irrigation from end to end. In the winter a prevailing wind from the southwest carries the rainfall over the lower coast range hills and through Golden Gate obliquely toward the upper valley and against the Sierras, depositing from fifty to one hundred inches on the mountain sides and summits, which store it congealed for future reference. On the floor of the valley the precipitation is usually about twenty to twenty-five inches in the upper, and from five to ten in the lower, end. On the coast the range is from ten to twenty inches in southern coast counties, to fifty and one hundred in the northern, and this influences the interior as the coast hills and mountains permit entrance or shut out the prevailing winter winds from the Pacific and their loads of moisture. The region along the Sacramento has, therefore, a decided advantage in rainfall, and a direct bearing in favor of alfalfa, especially in seeding and early growth.

The northern counties of Tehama, Glenn, Colusa and Yolo have been great wheat districts but the latter has shown what dairying will do with alfalfa and water. Twenty years ago a decline in wheat values and production, with dry farming, was evident and owners of large tracts got busy. An immense canal was run for twenty or thirty miles down the western side of the Sacramento, and ditches for this honeycomb the higher lands, above overflow from spring freshets. The Colusa and Glenn country is settling up with small farmers, depending on diversified crops, and alfalfa has become the most important. Land is sold from $75.00 to $100.00 an acre with water at cost of distribution.

Quality of soil does not always fix the value of land. Social conveniences usually figure and the contentment of the family is to be considered. Comfort and health are equally important and have a bearing on the selection of farm homes. These questions must be decided by everyone for himself. I have only tried to give an independent idea from observation as to alfalfa culture for dairying. From end to end of the great valley alfalfa is a success, and the market for dairy products practically equal. The extent of territory is so great that I will not try to say which point is better than another.

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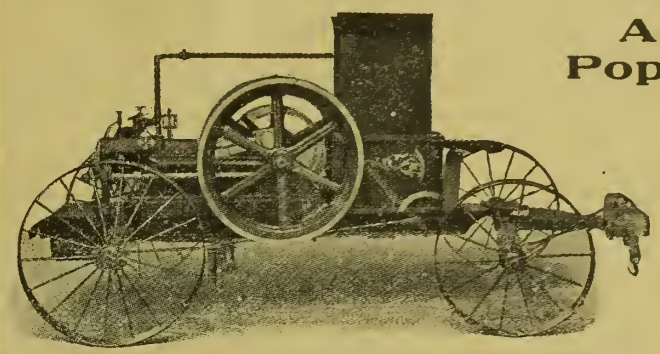

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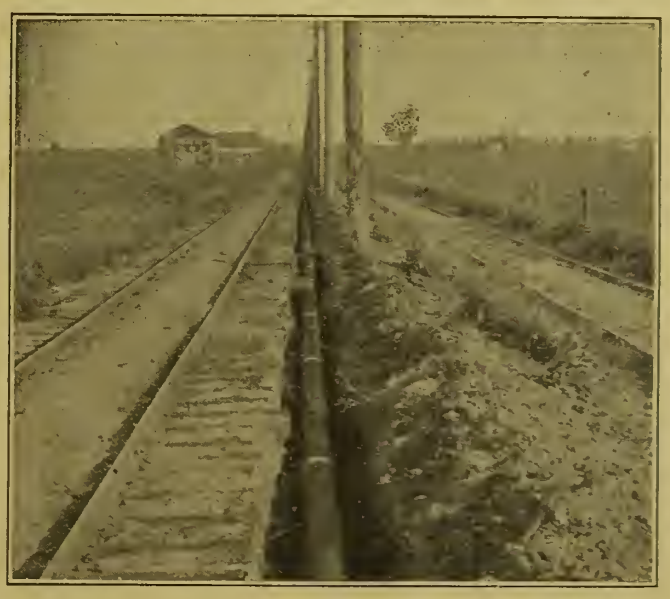

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# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Warts.

We have a cow that has great blotches of warts on her teats making it very difficult to milk her. Do you or some of your readers know of some remedy that will take them off without leaving her teats sore?—H. M., Phoenix, Arizona.

Use cold-pressed castor oil on the warts night and morning after milking. If there are some that hang by a small neck that can be clipped with sharp scissors, cut them off, one each day on each teat and touch the spot with lunar custic. More fully answered in dairy article next week. —M. E. S.

### Ropy Milk.

I have a Jersey cow that dropped her first calf when twenty months old, and her second at thirty-one, and now she is thirty-three months old; gives sixteen to seventeen pounds of milk per day; is tied on a thirty-foot chain in an oat stubble field and fed two pounds of middlings and four pounds of bran daily; looks well. Her milk after standing for thirty-six hours is ropy or slimy, but when it is fresh it seems all right. This ropiness seems to be the first or early stages of clabbering. Can you suggest a reason for this?—W. C., San Jose.

There is a great lack of succulency in this feed and the cow would be less apt to be feverish if the meal was fed wet to her. If possible add or change two pounds of the bran for two pounds of alfalfa meal. All souring or thickening of milk is caused by bacterial action. The cleanest germicide to use around milk is lime water. The vessels are rinsed in it after having been washed as usual and turned over to dry in the open air without wiping. Sunshine will always help to remove bacteria, as it is a remedy for them. If the clabbering is the natural souring of the milk, then a lower temperature will retard it somewhat. Where there is no ice, wrapping the milk jar—using a Mason jar with top as a vessel for the milk—then wrapping it in coarse canvas and putting it in an airy place with a drip arranged to keep the covering of the jar moist, will hold the temperature down several degrees. At this season of the year in San Jose the milk will naturally begin to clabber at 36 to 48 hours.—M. E. S.

### Dairy Questions.

Have a three-year-old heifer, a grade Jersey, fresh with second calf last May. What makes her breathe heavy and loud, expelling the breath with a short blowing sound—a labored breathing that reminds you of a person with asthma. Whether she runs or stands still, makes no difference, the breathing is the same. She does not seem to mind it, is in good condition and eats well. Noticed it first last winter.

Considering that she was milked right up to time of freshening, about what quantity of milk ought she now to give daily, feed consisting of alfalfa hay, wild oat hay and Kaffir corn fodder?

What can I do to prevent teats being dry and rough, the skin scaling off in little flakes when milking?

Is there any cure for a young cow that sucks her own milk?—F. E. Lindsay.

Either enlarged throat glands or else something in the nose. Foxtail bronco grass heads are often breathed into the nostrils and become embedded causing enlargements. In all cases of this kind it is safer to have the cow tuberculin tested. Often cows in fine flesh prove to be badly diseased, and these animals will eat well and appear well until within a short time of their death. Then the disease suddenly lights up and they shrivel away rapidly.

The amount of milk a cow gives depends on her inheritance. Which way has a grade animal inherited? A cow with her second calf ought to make ten pounds of butter a week. Use a little glycerite of tannin on teats after milking. Before milking wash the teats with water and dry them with a soft cloth and then use a little meal or flour to be sure they are absolutely dry before milking. Keep the hands dry while milking, using a cloth to wipe them if they are at all moist.

It is a hard practice to break up. A halter on the head with a surcingle around the body, and a broom handle tied from one to the other carrying it between the front legs, is the easiest on the cow. A short piece of wire fastened from the halter to the end of the broomstick gives it play enough and then a small pad on the back under the surcingle will keep it from rubbing her back.—M. E. S.

### Soft Shell Eggs.

Can you tell me what to give my hens to keep them from laying soft shell and very thin shell eggs. Am feeding wheat, Egyptian corn and scraps from the table, and they have plenty of meat scraps, oyster shells, lime and dishes broken up before them all the time, also have plenty of green food. Have 27 hens in a yard about 50x100 feet, laying from 1. to 21 eggs a day.—Mrs. M. E. W., Fresno.

Your hens certainly are laying well for this time of year, but lack something necessary to produce hard shells, and the soil must be lacking in some mineral they need, so it would be well to have a load of coarse sand hauled in for them, and also to give them granulated bone. Fresh green cut bone is preferable, of course, one-half ounce to each hen every other day, but is not always easy to obtain.

If the yard has become smooth and hard, it would be well to have it broken up so they can pick around and dust themselves in fresh earth, and find elements in the soil that they need "in their business." This would make the sand unnecessary, if the soil is of a sandy nature. Grain scattered in loose soil covering the grain partly, will induce them to scratch up the fresh dug earth, and give them exercise.—Mrs. Metcalf.

### Worms.

Every one of my young leghorn chickens that I have killed has four or five worms in its intestines. What is the trouble and what is the remedy?—B. P.

There are two kinds of intestinal worms, the round worm, and the tape worm. The round worm is much the more common, and a few of them make litle impression on the health of the fowl, but a number will cause diarrhoea and mal-nutrition, as they will take the nourishment from the bird and stop the intestinal passages if allowed to increase. The treatment for a flock suspected of being wormy is to withhold food for a day, then mix a mash containing two grains of santonin for each bird, dissolved in the water with which the mash is to be mixed first, then stir up and add one-half teaspoon castor oil to each bird (adults, this quantity would be sufficient for four month old chicks) and feed at night. Watch the droppngs next day, collect and burn, or bury deeply. A little sulphur fed occasionally in milk or mash, is an excellent preventive, to keep the birds free from worms, and is safe and sure remedy in dry weather, but not advisable for cold, damp weather.—Mrs. Frank Metcalf.

### An Open Question.

I was about to put down some eggs, according to directions in the Cultivator, in water glass, but was told that they should not be put down in mid-summer, but either before or after the great heat. I would be glad to know if in the experience of the readers of the Cultivator, this advice has been confirmed.—N. M. T., Orland.

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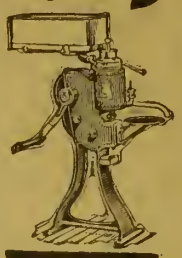

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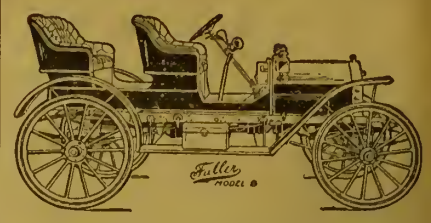

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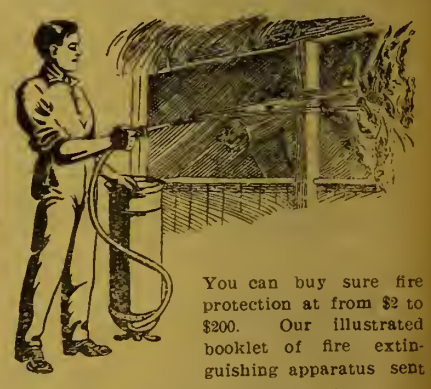

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If eggs are gathered fresh several times a day during hot weather, not allowing them to over heat in the nest they will keep, but would be glad if some one who has tried it out will give experience.

### Crimson Winter Rhubarb.

I sowed crimson winter rhubarb last March. Some of the plants are too heavy and others did not grow at all. Some are a foot high, while others are only two or three inches. Should I transplant them now in rows in order to make them easier to handle and irrigate?—F. C. T., Santa Ana.

The seed of crimson winter comes very uneven; as the writer says, some high, some not at all, and some indifferent. The smaller ones should be thrown away and the thrifty larger ones used in transplanting. It would not be wise to plant all as they come from the seed. Like nearly all seedlings, rhubarb is liable to give a large percentage of unsatisfactory plants.

### Rust On Snapdragon.

Enclosed find leaves of antirrhinum (snap-dragon) which are badly affected with rust. Many plants afflicted become sickly and soon die. What is the cause and remedy?—M. D. Woodruff, Alameda.

Prof. Smith of the Southern California Pathological Laboratory answers: "The snapdragon leaves sent are affected by one of the true rusts, similar to grain rust, asparagus rust and other similar fungi. This disease seems to have become very common and general in California during the last few years. There is no effective remedy for the trouble save in so far as good care and plenty of water may promote the vigor of the plants."

### Summer Pruning.

How far should the summer pruning of peach trees be carried? Should it be confined to the suckers, or is it advisable to cut out large limbs? I am advised not to cut the larger limbs.—W. W. A., Modesto.

The advice not to cut large limbs is good. Apricots will stand it if done immediately after the fruit is removed, but with peaches the pinching back of the ends and of course the removal of suckers is about all that should be permitted. The forming of the head and the pruning of the larger branches should be left till winter.

### Cabbage Lice.

Please tell how to kill lice on cabbage plants. Have used slacked lime and ashes, dry sulphur, soap suds, coal oil, etc., without any good results.—New subscriber, Arroyo Grande.

The easiest way to get them off is to keep them off. If you keep the plants clean from the seed bed and the field free of all living things on which the lice can maintain life, it will be but little infested. If they commence to come into the field from one side, it is probably the safest plan to destroy every plant as soon as lice appear upon it. Kerosene emulsion spray is the next best thing, but it is almost hopeless when they have secured a good foothold. It surely looks as if the treatment you have given would destroy them if anything would. If you have only a small number of plants in the garden, hot water will probably give relief.

### Lippia Lawn.

Our house was built in an alfalfa field thickly grown with Bermuda. We have planted a small quantity of lippia which has spread over the lawn space, but though we have been fighting the Bermuda all the time, its blossom stalks force their way through the lippia, though the lippia continues to grow and form a mat on top of the Bermuda. Can anyone inform us if the lippia will finally kill out the Bermuda?—O. M. B., Bakersfield.

We shall be pleased to hear from our subscribers who have had experience along this line. Until such time, we should encourage the lippia as much as possible and hope in time it may smother the Bermuda which will not live under cover. It must be in the light and sun.

### Soy Beans.

When should soy beans be planted?—E. M. C., Kern.

The soy bean is very similar in growth to the ordinary horse bean and should be treated in the same way. It may be planted now. It is a winter grower.

## Veterinary

**Answers in this column by Dr. R. T. Whittlesey, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.**

### Lame Horse.

My horse has spells of getting lame in her hind leg so she has to drag it, then suddenly gets over it. It seems like stifle is out. Also I have a valuable colt, was cut in her front heel two months ago. The cut is deep and don't heal or knit together. One corner of her heel sticks out. Would it be better to bandage it up?—H. S. G., Murietta, Cal.

My opinion is that your horse does get its stifle out of place. The cut on the colt's foot will heal much faster if bandaged. Use a solution of sulphate of copper and water, as strong as you can make it. Saturate some gauze or cotton and bind on tight. Dress once daily.—R. T. W.

### Swollen Ankles.

A three year old mare, broken this spring to orchard work, at first used three hours per day and lately worked a half day at a time, is bothered with swollen ankles. At first this swelling would recede, but lately it is assuming a permaneut aspect and remains at above twice the normal size What can be done to correct it?—Subscriber, Fair Oaks, Cal.

The swelling is undoubtedly due to weak ankles or over work. Treatment should be plenty of cold showers. Paint with iodine and cover with a light bandage. A bandage of adhesive tape neatly rolled on will strengthen the ankle. This can be left on for several days.—R. T. W.

### Possibly Mange.

My horse is troubled by scratching his tail, then his mane. Afterwards the hair began falling from his head aud back The horse appears to be in perfect misery. Two others have started with the same disease. Some say it is mange, others say it is worms. Some suggest that it might be lice. I have separated them from the other stock, white-washed the premises several months ago and used a number of different remedies. At present I wash off with warm water and a little lye, then put on sheep dip diluted with fish oil. It appears to relieve them for a while, but in a few days they scratch as bad as ever.—J. K., Santa Paula, Cal.

Make a solution of bi-chloride of mercury, three drams to a gallon of water and wash the parts once daily, well rubbed in with a brush. As this solution is so extremely poisonous, it will be advisable to add a little bluing so that no mistake can be made.


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FOR SALE—(MAN OR WOMAN), A 320 acres South African Veteran Bounty Land Certificate issued by the Department of the Interior, Government of Canada, Ottawa, under the Volunteer Bounty Land Act, 1908. Good for 320 acres of any Dominion Land open for entry in Alberta, Saskatchewan, or Manitoba. Any person over the age of 18 years, man or woman, can acquire this land with this Certificate, without further charge. For immediate sale, $800. Write or wire, L. E. TELFORD, 131 Shuter Street, Toronto, Canada.

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FOR SALE—A FEW HEAD OF UNbroken horses, three year old and past; ten two-year-old Poll Angus bulls; two Durham bulls; several yearling and two-year-old mules; three spring wagons. Address CHAS. W. HART, Farmersville, Cal.

### GOATS.

MILCH GOATS—HAVE YOU GOT THE doe? Then for the kids' sake, fire the common billy! Grand young Toggenburg-Saanen buck from imported stock, $50.00. Several fine does. Red Alpine Breed, good milkers. $8.00 to $16.00 each. B. A. R. STOCKER, Arroyo Grande, San Luis Obispo County, Cal.

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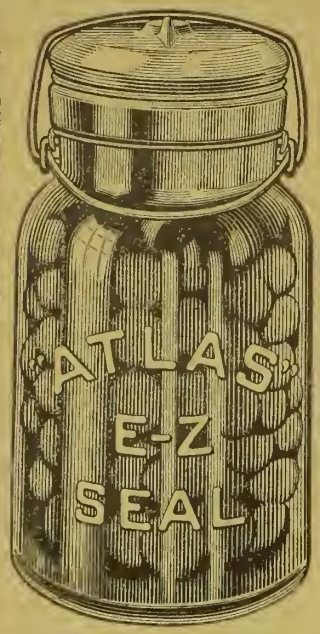
HAVE YOU A BOY? IF NOT, LET us send you one. We want country homes for boys of all ages. Arrangements to suit. CHILDRENS' HOME SOCIETY, 2414 Griffith Ave., Los Angeles, Cal.

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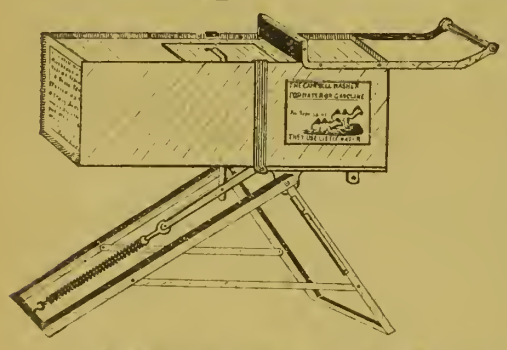

will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

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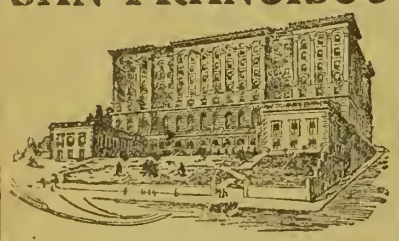

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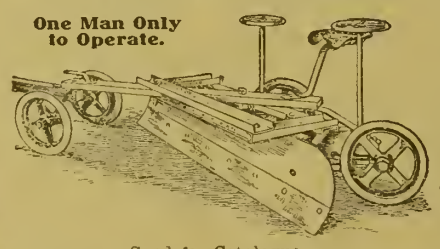

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# Household Department

### MY CREED.

This is my creed: To do some good,
To bear my ills without complaining;
To press on as a brave man should
For honors that are worth the gaining;
To seek no profits where I may
By winning them bring grief to others;
To do some service day by day
In helping on my toiling brothers.

This is my creed: To close my eyes
To little faults of those around me;
To strive to be when each day dies
Some better than the morning found me;
To ask for no unearned applause,
To cross no river till I reach it;
To always have a worthy cause,
To fearlessly and fairly preach it.

This is my creed: To wisely shun
The sloughs in which the foolish wallow;
To lead where I may be the one
Whom weaker men should choose to follow.

### GETTING A COMPLETE CHANGE.

MRS. MENDENHALL stepped briskly into the room, ten minutes before the time for the meeting of the Women's Aid society and the assembled members hastened to give her a hearty greeting.

"There's no need to ask whether yau have been benefited by your trip, said the much-traveled member. "The answer is written all over your face. You look like a different woman!"

"Yes, indeed," responded Mrs. Mendenhall. "I'm feeling ever so much better. There's nothing like a change to build one up!"

"Did you go away for your health?" asked the woman who was born in Chicago and had never been farther away than Aurora.

"Yes. I was all run down. I hadn't any appetite—simply couldn't bear to think of eating—and the doctor said what I needed was a complete change. So my husband arranged his business and we started out to travel for a month."

"I don't see how you dared to start, feeling as you were," said the member who never left Chicago.

"Well" replied Mrs. Mendenhall, "it didn't take long to prove that the doctor was right. I hadn't been away 24 hours before I began to feel as though I could enjoy a beefsteak and a cup of tea."

"Oh, I just envied you when I heard you were going to New Orleans," said the traveled member. "It's such fun to dine at the French restaurants. Didn't you enjoy the broiled pompano and the shrimps a la creole? Those things don't taste the same in Chicago. And the coffee! I think you never know what good coffee is till you go to Louisiana!"

"My husband said it was good, Mrs. Mendenhall answered. "I didn't try it. I always drink tea when I can get it—black tea. We went to a restaurant where they had those French things, but I couldn't make out what the bill of fare meant and I ordered a beefsteak."

"You stopped at El Paso didn't you?", ventured the member who had a cousin in Texas. "Clara says some of those Mexican dishes are very appetizing."

"I'd heard about Mexican cooking," was the response, "and what a lot of pepper they put into everything. So when we got off the train at El Paso I said to my husband: "You can try all the peppery stuff you want, but no experiments for me!'"

"It must have been the ripe olives and oranges you got in California that started you on the road to health," said the traveled member. "You never realize how good oranges can be till you eat them under the tree on which they grew!"

"I saw some ripe olives," replied Mrs. Mendenhall, "but I didn't taste them. The oranges looked ever so pretty on the trees, but I don't believe in eating fruit and other stuff between meals. The fact is," she continued, "as I told you, I hadn't more than got started before I began to feel as though I'd enjoy a beefsteak; so my husband ordered a good sirloin steak and potatoes and a cup of tea and a piece of apple pie.

"Well, it tasted so good that I kept on ordering just the same things every meal, only leaving out the pie for breakfast, clear around from Chicago to Los Angeles and back again! And I must say it's done me a world of good! Why, I've gained 11 pounds!"

There was a twinkle in the eye of the traveled member as the president of the society called the meeting to order; but the woman who never left Chicago leaned over and whispered:

"I think you were very sensible, Mrs. Mendenhall. It was really the only safe way to do."—Chicago Daily News.

### DOROTHY'S PRAYER.

Little Dorothy at the age of six was very thoughtless regarding the care of her clothes and the many admonitions she had received about neatly arranging her clothes on a chair each night before retiring were daily forgotten.

One night, just as she was ready for bed, her mother came in, and, finding the little garments in a heap on the floor, as usual, said: "Dorothy, you may say your prayers and then mother will have to punish you for not minding her about your clothes." Having said this she stepped into the adjoining room and partially closed the door.

In a few moments she heard Dorothy, who was a firm believer in the power of prayer, repeat: "Now I lay me," and after the "amen" she heard this appeal: "And, dear Lord, if ever you wanted to help a little kid, now's your chance."—Delineator.

### THE EASIEST WAY.

She—And knowing my sentiments on the subject, did that odious Mr. Binks insult you by offering you a drink?

He—That's what Mr. Binks did.

She—And how did you resent it?

He (meekly)—I swallowed the insult.—Baltimore American.

If you're loyal to a man who turns out right you will have something to boast of. If you are loyal to a man whom every one else deserts for his faults you will have something to be rewarded for in the final judgment.—Strickland W. Gillilan.

Damp salt will remove the discoloration of cups and saucers caused by tea and careless washing.

### FOR CLEANING.

Alabaster.—Use strong soap and water.

Black Silk.—Brush and wipe it thoroughly, lay on table with the side intended to show, up; sponge with hot coffee strained through muslin; when partly dry, iron.

To remove stains or grease from oil paint.—Use bisulphide of carbon, spirits of turpentine, or if dry and old, use chloroform. These and tar spots can be softened with olive oil and lard.

Stains, iron rust, or ink from vellum or parchment.—Moisten the spot with a solution of oxalic acid. Absorb same quickly by blotting-paper or cloth.

Fruit spots from cottons.—Apply cold soap, then touch the spot with a hair pencil or feather dipped in chlorate of soda, then dip immediately in cold water.

Grease from silks.—Take a lump of magnesia, rub it wet on the spot, let it dry, then brush the powder off.

Iron rust may be removed from white goods by sour milk.

Scorch stains from white linen.—Lay in bright sun.

Oil marks on wall paper.—Apply paste of cold water and pipe clay, leave it on all night, brush off in the morning.

Paint spots from clothing.—Saturate with equal parts turpentine and spirits of ammonia.

To cleanse house paper.—Rub with a flannel cloth dipped in oatmeal.

Black cloth.—Mix one part of spirits of ammonia with three parts warm water, rub with sponge or dark cloth, clean with water, rub with the nap.

Furniture, for fingermarks.—Rub with a soft rag and sweet oil.

Zinc.—Rub with a piece of cotton cloth dipped in kerosene, afterwards with a dry cloth.

Hands from Vegetable stains.—Rub with a slice of raw potato.

Window glass.—Paint can be removed by a strong solution of soda.

To clean tin ware.—Common soda applied with a moistened newspaper and polished with a dry piece, will make it look like new.

### WEIGHTS AND MEASURES.

Two tablespoons of powdered sugar make one ounce.

Two tablespoons of flour make one ounce.

Four cups of sifted flour make one pound.

Four cups of liquid make one quart.

Two cups of solid butter make one pound.

Two cups of granulated sugar make one pound.

Ten eggs make one pound.

### POISON OAK REMEDY.

An exchange gives the following remedy for oak poisoning, which reads as if it would do the work if the polsoning is only skin deep. A few persons seem to be so constituted that no external remedy will effect a cure:

It is about time for people to get poison ivy, poison oak and kindred plants when gathering flowers in the woods. The Government recipe for an antidote in such cases is to make a 50 per cent solution of alcohol—one-half—and to add to this enough acetate of lead to make a saturated solution—as much as the liquid will dissolve—wet a cloth in this solution and lay it on the parts blistered by the poison; it will allay the itching and effect a cure if your blood is not in too bad a condition. The remedy is rank poison to take internally.

You can prevent being poisoned by washing face and hands in the above solution after returning from the hills where you have been exposed to the poisonous plants. Or, use a strong salt brine or a solution of baking soda in water. The poison is an acid exuded from the leaves and the lead, salt or soda solutions are alkaline, and immediately neutralize the poison.

### UNCLE ZEKE SAYS:

Sum one ort to propose a tariff on members ov th' Annyias Club. Rosyvelt will hav so menny foriners admitted before he gits back thet a nuther American industry will be ruined.

We've heard tell that men spring frum th' monkeys; but we're quite shure wimmen spring frum th' mice.

Wunder why wimmen call it a "rat" Rabbit would be a hull lot more appropriate. Thet would sound more like hare.

It iz th' block head thet iz allus goin 'around with a chip on hiz shoulder.

If we kud buy husbands for what their wives think they air wuth and sell 'em fer what they think themselves wuth, we'd soon hav Mister Patten distanced.—Journal of Agriculture.

### FOR A BRIDE'S DOWRY.

There is a very pretty custom in some of the northern parts of Europe. There the white poplar in good soil increases a shilling in value every year. The trees are generally cut down at the age of twenty years, as they are then supposed to have attained their full growth. When a daughter is born in the family of a well to do farmer the father as soon as the season permits plants a thousand young trees, and these are to constitute the dowry of the maiden, "which grow as she grows and increase in height and value as her virtues and beauty increase."

Every year in December says an exchange a goose fair is held in Warsaw, Russia, on a gigantic scale. It is estimated that on an average no less than 5,000,000 geese are driven to the town and sold. These have to travel from 40 to 150 miles on foot. Most of them come from the Vilma district, to the northeast of Poland. To enable the birds to stand these long journeys, the geese are shod. The method of shoeing them is simple and interesting. They are made to walk to and fro for a time in melted tar hot enough to stick, but not to burn their feet. Then they are turned loose on a sand heap. The result is a pair of shoes durable enough to last on the journey.

A delicious accopaniment for afternoon tea, or to be served with a green salad at dinner, is a bread-and-butter sandwich with a filling of cream cheese. Toast the sandwich, which should be very thin, on both sides, and serve very hot.

**FEED CUTTERS HAND AND POWER**
All Sizes, Best Makes, Lowest Prices. Agents Wanted Write for Catalog
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112-18 S. Los Angeles St.
Los Angeles, - Cal.

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That possesses all the good qualities of the finest hair mattress at about one-half the cost?

That is made in a factory where every precaution has been taken to insure the most perfect sanitary conditions?

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That is guaranteed to give perfect satisfaction or your money promptly and cheerfully refunded?

That costs $15.00 for the full size, $12.50 for the ¾ size, $10.00 for the single size and is positively the best mattress made anywhere at these prices?

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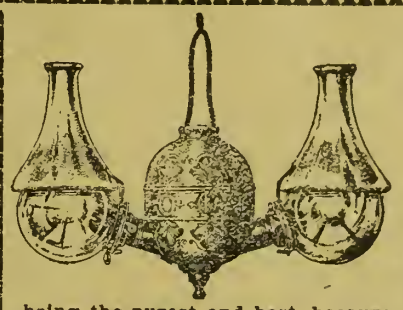

# Angle Lamp

**The Light That Never Fails**

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes. Here are a few of The Angle Lamp Merits:

**NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.**

**GREAT ECONOMY—COST LESS TO BURN** than an ordinary lamp. As easy to operate as gas or electricity, and better than either. **ABSOLUTELY SAFE** under all conditions. Lighted and extinguished like gas. Burned **HIGH** or **LOW** like **GAS** without a trace of odor. And a **BRILLIANT**, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 1 quarts of oil.

*Send for Illustrated Catalogue with Prices*

**Boesch Lamp Co., 1135 Mission St., San Francisco**

Established 1869 Incorporated 189

# California Genuine Sardines

## Not a Substitute, but a Genuine Sardine

They have all the old time Sardine qualities. Delicious in flavor, a wholesome, nutritious food. You will prefer them to any you have ever eaten.

**PROFESSOR DAVID STARR JORDAN,** President of Leland Stanford University The leading authority on fisbes of tbe Pacific Coast, writes of the California Sardines, in "Fisbery Industries of tbe United States," 1894, page 569: "This species is everywbere known as the Sardine or by tbe Italians as Sardinea." It is in fact almost identical with the sardine of Europe.

**Your Only Protection**

against substitution lies in becoming acquainted with our brands.

**Don't Ask for a Can of Sardines or California Sardines**

But ask for any of the following brands and insist upon getting them:

**Put Up Only Under These Brands**

| BRANDS | STYLES | BRANDS |
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| Goldfish | Ravigote | La Rouchelle |
| Sunset | Le Croix | Mission |
| Senorita | Boneless | Sunset |

If your grocer does not carry them in stock write us.

**CANNERY, SAN PEDRO, CAL.**
Tbe only Cannery of Genuine Sardines in America that is operated 12 months in the year in the same line of business.

**Five Colored California Post Cards Free**

**California Fish Co.**
116 Henne Bldg.
Los Angeles, Cal.

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, August 11, 1909.

### Butter.

Butter holds its last week's advance with firm market.

Creamery per roll .....60@62½
Dairy per roll .....30
Eastern creamery per lb .....30
Cooking .....25

### Cheese.

Southern California Anchor .....20
Northern fresh .....17½@18
Anchor Young America .....21
Domestic Swiss .....21@23
Imported Swiss .....30

### Eggs and Poultry.

Eggs stand as last week for extra candled but case count shows a two cent advance.

Paying price f. o. b. L. A. are:
Eggs .....34@36
Case count buying price .....31
Eastern .....30

Dealers pay for live poultry f. o. b. L. A.:
Hens per pound 3½ up .....14
Stags and old roosters .....7
Fryers 2 to 2¾ lbs .....15
Broilers 1¼ to 1¾ lbs .....17
Broilers 2 lb .....19
Roasters 3 lbs and up .....16
Turkeys .....19@23
Geese .....12
Ducks .....12@13
Squabs .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds .....7½
Prime steers .....4@4¼
Heifers .....3½@3¾
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.25@3.50
Wethers .....4.50@5.00

### Potatoes.

Wholesale prices are:
New sweets per lb .....3@4
Early Rose local .....1.50
Burbank local .....1.40@1.50
Highlands .....1.35

### Onions.

Wholesale quotations:
Silverskins, local .....75@1.00
Northern Yellow Danvers .....1.25
Bermudas, Imperial per crate ..75@1.00
Australian Browns per sack .....1.25
Coachellas sks .....75@1.00

### Vegetables.

Artichokes locals .....60@75
Asparagus .....4@6
Beets per sk .....90
Beans string .....2@3
Bell peppers .....8@10
Cabbages per sack .....50@60
Celery per doz .....60@90
Chili per lb .....25
Chili dried .....9@10
Cucumbers per box .....35@40
Cauliflower per crate .....1.25
Carrots per sk .....90
Corn per sk .....1.50
Egg plant per lb .....7@8
Green onions per doz bunches ..20@25
Summer squash per box .....35@50
Lettuce choice .....75@1.25
Oyster plant .....50
Okra per lb .....5@6
Peas per lb .....3@5
Parsley doz .....20@25
Parsnips .....15@20
Rhubarb Crimson Winter per box 1.00
Radishes per doz .....15@20
Spinach per doz .....15@20
Turnips sk .....90
Tomatoes crate .....40@50
Tomatoes lugs .....35@40

### Citrus Fruits.

Valencias .....1.50@2.00
Grapefruit .....1.75@2.75
Lemons .....1.25@3.00
Unpacked .....1.00@1.35

### Fresh Fruits.

Wholesale prices on the market are:
Apricots per lug .....50@75
New apples .....50
Alexanders .....1.40@1.85
Gravensteins .....1.50@2.00
Casabas per crate .....2.00
Currants .....60
Figs .....60@75
Grapes 4 basket crate .....1.00
Gooseberries .....10
Loganberries .....3
Peaches box .....35@50
Pears Bartletts .....50@75
Plums .....60@1.00
Prunes .....60@1.00
Raspberries .....5
Blackberries .....5@6
Strawberries .....4@5
Watermelons per doz .....75@1.00

### CANTALOUPES.

Cantaloupes are coming in exceptional quantity, but owing to good quality are commanding fair prices though they have shaded slightly since last week.

Cantaloupes ponies .....75
Jumbos .....75@1.00

### Dried Fruits.

Wholesale prices are:
Apricots .....10
Evap apples fy per lb .....10@11
Figs loose .....5
Peaches .....5@6
Pears .....8@10
Plums pitted .....8@9
Nectarines .....7½@9
Prunes .....7@8

RAISINS—Muscatels, 2-crown, loose, 50-lb. boxes, lb., 3½c; do., 3-crown, 4c; do., 4-crown 5c; sultanas, bleached, lb., 9c; do., unbleached, 3½@4c; new seeded raisins, 16-oz. packages, 6c; do., 12-oz. packages, 5c.

### Beans Dried.

Wholesale prices are:
Pink No. 1 .....3.50@3.75
Limas per ctl .....4.50
Black eyes .....3.50
Lady Washington .....5.50
Small White .....6.50@6.75
Garvanzas .....4.00@4.50

### Nuts.

Almonds IXL per lb .....16@18
Pecans polished .....15@17
Peanuts California .....5
Peanuts Eastern .....7
Wainuts No. 1 .....12@13
Walnuts No. 2 .....9@10

### Honey.

Wholesale quotations:
Extracted water white .....7
Extracted Light Amber .....5½@6
Comb Water White .....15
Comb white .....14
Beeswax .....25

### Hay.

Hay is somewhat unsettled and rather weaker than last week. Only choicest is now being picked up.

New Barley hay .....8.50@13.00
New alfalfa Imperial .....10.50@11.50
Northern .....10.50@12.00
Wheat hay .....10.00@13.50
Wheat hay .....10.00@13.00
Tame oat .....10.00@15.00

### Grains.

Wholesale selling price f. o. b., Los Angeles:
Wheat new per ctl .....2.10@2.15
Kaffir corn .....2.00
Corn Eastern bulk .....1.80
Egyptian corn .....1.80
White oats .....2.25
Seed Rye .....2.00

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn .....1.85
Shorts .....1.90
Bran .....1.65
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....2.50
Feed meal .....1.90
Rolled Barley .....1.55

## San Francisco Markets

SAN FRANCISCO, August 10, 1909.

### Butter.

Market on butter is quiet and purchases are usually small. Quotations are exactly as last week.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

California extras per lb .....28
California firsts .....27
California seconds .....25½
Packing .....24½

### Cheese.

California flats .....13½@16
Cal Young America fy .....15
Young American Oregon fy .....16

### Eggs and Poultry.

Eggs show a two cent advance on extra candled, but fresh ranch are exactly as quoted last week.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch .....23@33½
Hens per doz .....4.50@8.00
Roosters .....4.50@10.00
Fryers per doz .....5.50@6.50
Broilers .....2.50@3.50
Geese per pair .....1.50@2.00
Ducks young .....5.00@8.00
Pigeons young .....1.00@2.25

### Live Stock.

San Francisco prices gross weight:
Steers .....2¾@4¼
Cows and heifers .....2@3¼
Hogs .....4½@7½
Calves per lb .....4@4¼
Milk lambs .....5¼
Wethers No. 1 .....4¼
Ewes No. 1 .....3¾

### Potatoes.

Wholesale market quotations:
New crop .....65@90
Sweets crates per lb .....3¼@3½

### Vegetables.

Wholesale quotations:
Asparagus per box .....50@1.00
Bell peppers per box .....40@60
Brussels sprouts per lb .....3@5
Cabbage per box .....2.00@2.25
Cauliflower doz .....75@1.00
Carrots per sk .....65@75
Cucumbers per box .....40@65
Pickle cucumbers box .....65@75
Chili peppers per box .....25@35
Corn per sk .....55@1.00
Egg plant per box .....50@75
Beans limas .....4@5
Green peas per sk .....75@1.50
Okra .....65@75
Onions green per box .....50@60
Rhubarb per box for bay .....1.25@1.50
Squash per box .....35@50
String beans .....1@3
Tomatoes River .....25@40
Tomatoes Bay .....50@65
Wax Beans .....2@4
Lima Beans .....3@4

### Onions.

Yellow .....75@90

### Citrus Fruits.

Valencias .....2.25@3.00
Grapefruit .....1.00@3.00
Lemons .....2.00@5.00
Limes .....5.50@6.00

### Fresh Fruits.

Apricots per lb .....2@3
Apples new green .....75@1.50
Crab apples .....40@75
Cherries loose black per box .....50@65
Figs blk box .....75@1.00
Grapes seedless .....40@65
Malagas .....50@65
Rose of Peru .....50@60
Muscats .....1.00@1.25
Logans per chest .....3.00@4.00
Nectarines crate white .....40@50
Nectarines red .....75@85
Cherry plums per box .....25@35
Peaches freestones per lug box ..25@40
Peaches per lug box clings .....40@75
Plums boxes .....40@75
Plums Tragedy crates .....60@75
Pears Bartletts .....60@1.25
Cantaloupes .....1.25@1.50
Nutmegs per doz .....50@75
Muskmelons .....1.00@1.50
Pears box .....60@1.50
Blackberries per chest .....2.00@3.00
Huckleberries per lb .....12½@15
Raspberrics per chest .....6.00@9.00
Longworth per chest .....3.00@4.00
Malindas per chest .....3.00@5.00
Watermelons per doz .....1.50@3.50

### Dried Fruits.

Prunes 4-size basis .....2½
Santa Clara .....2¾
½c premium for larger sizes
Apricots per lb .....8¼@10
Peaches—Choice ...4; Fancy ...6@7½
Apples evap .....5@7½
Pears .....5@8½
Figs .....2½@4
Nectarines .....5@6
Pitted Plums .....7@8

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do. No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12. 3¾c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached. 2¾c; Dried Grapes, 2c; London Layers, clusters. 6-crown, $3; 2-crown, 90c; 3-crown, $1: 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

Wainuts soft shell .....12½
Hard shell .....6@8½
Ne Plus Ultra .....12
Almonds Nonp .....11½
Pecans .....15@17
Chestnuts .....2@10
Peanuts .....5@6
Pine nuts .....22½@25

### Beans Dried.

Limas .....4.10@4.20
Pink .....2.85@3.00
Small white .....6.25@6.50
Large white .....4.25@4.50
Black eyes .....3.35@3.50
Red kidneys .....3.50@3.75
Garvanzas .....2.75@3.00
Bayo .....4.50@5.00
Horse beans .....2.00@2.20

### Hops.

Hops 1908 crop .....9@12
Old crops .....4@8
1909 crop contracted for at .....17@20

### Honey.

White comb .....14@15
Light Amber .....10@12
Extracted W W .....7@8
Extracted light amber .....6@7½
Beeswax per lb .....25@29

### Hay.

Arrivals of hay during the past week have amounted to 5700 tons, which is the largest amount that we have received at any time this year. There is now a great deal of hay coming in by water, as a fleet of boats are now engaged in moving that part of the crop which enters this market from the bay shores coming by water. It is unusually late in the season for this movement of hay to start, as in former years most of the hay from these districts began to be moved into San Francisco at the earliest period of the season.

The increase in our arrivals during the last fifteen days has been occasioned mainly by these quantities hay coming by water, as the arrivals by railroads have not increased to any large extent. However, it must be known that arrivals by railroads would have been heavier had the railroads furnished the cars that shippers have been asking for. At a number of points throughout the hay sections the railroads have not been able to supply the increasing demand for cars for shipment of hay to San Francisco.

It is to be expected that these heavy arrivals must continue from now on, to be able to accomplish the removal of all the hay that is still in the fields into the market in due time.

Alfalfa hay has been arriving in larger quantities, and while there is no active demand, offerings of this class of hay have found a fairly ready sale. The market condition on alfalfa hay, sympathizing with the general market on other varieties of hay, is a little weak.

This week's quotations are:
Choice wheat hay .....17.50@18.50
No 1 wheat or wheat & oat .....16.00@17.00
No 2 wheat or wheat & oat .....13.50@15.00
Choice tame oat .....16.00@17.00
Other tame oat .....12.00@14.00
New crop wiid .....11.00@14.00
Stock hay .....8.50@9.00
Alfalfa .....10.00@14.00
Straw .....60@75

### Grains.

Wheat No 1 .....1.95@2.00
Barley .....1.35@1.42½
Oats white .....1.90@2.15
Oats gray .....2.00@2.10
Rye new crop .....1.70@1.75
Corn Egyptain .....1.60@1.65
Corn Cal sm round .....1.80@1.90
Alfalfa seed, Cal .....16@18
Mustard brown .....3¾@4½
Millet .....2½@3
Flaxseed .....4
Broom corn seed per ton .....23.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton .....39.00@40.00
Cracked corn per ton .....40.00@41.00
Rolled barley per ton .....31.00@32.00
Rolled oats per ton .....40.00@41.00
Oil cake meal per ton .....38.50@40.00
Cocoanut cake per ton .....25.00
Middlings .....36.00@37.50
Mixed feed per ton .....26.00@30.00
Shorts .....31.50@33.00

## Deciduous Market

SACRAMENTO, August 11, 1909.

Total shipments of deciduous fruits east this years are over 1000 cars in excess of last year, or a total of over 5000 cars, with indications that the season will be a record breaker. Prices are fairly satisfactory and all good stock is being picked up. The California Fruit Distributors are forwarding 150 to 200 cars a day. Eastern sales made on the 6th averaged: New York—Bartletts $1.80, Elbertas $1.00, Sugars $1.20, Susquehannas 65c, Crawfords 65c, Malagas $2.20.

Philadelphia—Bartletts $2.25, Crawfords $1.00, Sugars $1.05, Tragedies $1.25, Thompson Seedless $1.20.

Chicago—Crawfords 70c, Elbertas 75c, Bartletts $1.80, Beurre Hardies $1.35, Eggs $1.55, Gros $2.00, Germans $1.25, Malagas $1.40, Muirs 50c, Sugars $1.55.

Fruit Exchange sales on the same date were as foliows: Boston—Bartletts 1.85@2.55; Crawfords 65@1.40; Elbertas 1.25@1.55; Susquehannas 90c; Egg Plums 1.30@1.40; Thompson Seedless 1.35@1.55.

Chicago—Bartletts 1.80@2.10; Tuscans 45@80; Fosters 45@80; Muirs 50c; Elbertas 65@90; Silvers 45@90; Crawfords, crates, 45@75; Crawfords, boxes, 55@70; Fontainbleaus 90@1.25; Malagas 1.35@1.75; Kelseys 1.50@1.90; Tragedies 1.90@1.95 ; Germans 1.00@1.25; Sugars 55@1.65; Egg Plums 1.10@2.05; Hungarians 1.90@2.35.

Philadelphia — Bartletts 2.10@2.30; Sugars 1.00@1.25; Crawfords 90@1.00; Elbertas 1.10@1.25; Fosters 1.05@1.20; Thompson Seedless 1.20@1.25.

Pittsburg—Bartletts 1.95@2.05; average $2.00; Columbias 1.20@1.30, average $1.25; Kelseys 1.80@2.00; peaches 80c.

New York—Egg plums 1.25; Gros Prunes $1.85; Bartlctts $2.00; Empire Peaches 60c; Imperials 75c; Crawfords 75c; Late Crawfords 75c; Fontainbleaus $1.50; Tokays $2.25; Susquehannas 70.

On the 7th the Distributors prices averaged: New York—Bartletts $1.80; Elbertas $1; Sugars $1.20; Susquehannas 65c; Crawfords 65c; Malagas $2.30.

Philadelphia—Bartletts, $2.25; Crawfords $1; Sugars $1.05; Tragedies $1.25; Thompson Seedless $1.20.

Chicago—Crawfords 70c; Elbertas 75c; Bartletts $1.80; Hardys $1.30; Eggs $1.55; Gros $2; Germans $1.25; Malagas $1.40; Muirs 50c; Sugars $1.55.

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It is reported that Honolulu has to make a continual fight to prevent introduction of plants and shrubs from the orient which are infected with all manner of diseases which the islands are attempting to keep out.

# Citrus Market

LOS ANGELES, August 11, 1909.

Oranges are looking up, especially as to the more desirable sizes of the better quality fruit. Off sizes and low grade fruit occasionally meet with discouraging reception, but with more severe culling on the part of shippers, the fruit yet to go will surely command fair prices. There are between seventeen and eighteen hundred cars yet to go. The remainder of this month will see fairly heavy shipments which will probably be somewhat lighter during September. Early October will no doubt see the final cleanup.

Lemons are looking materially better as to prices. The amount now being cut is much less than during July. In fact, the shipments seldom exceed two cars per day, which is a little more than half the average daily shipments during July. The cent and a half tariff now prevails, and this, with the lighter shipments from California, gives assurance that the remainder of the crop will give fair returns.

**Shipments.**

Total shipments of oranges since November 1st, 1908, 29,357 cars; lemons, 5,467 cars, or a total of all citrus shipments to date of 34,824.

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NEW YORK, Aug. 9.—Fifteen cars oranges and one car lemons sold. The market is very steady on oranges and lemons. Weather is hot and sultry.

| VALENCIAS— | Average. |
|---|---|
| Titus Ranch, San Marino GPA | 2.95 |
| El Toreador San Marino GPA | 2.30 |
| Stag A-C-G Exchange | 3.30 |
| Pointer A-C-G Exchane | 2.70 |
| Vista Bonita AF Exchange | 3.40 |
| Lake Hemet A-C-G Exchange | 3.00 |
| Mision Indian AF Exchange | 2.20 |
| Red Shield A-C-G Exchange | 2.45 |
| Green Crown A-C-G Exchange | 2.10 |
| Orchard National Orange Co | 2.85 |
| Standard National Orange Co | 2.50 |
| Old Mission Chapman | 4.45 |
| Golden Eagle Chapman | 2.80 |
| Albion E Strain | 3.05 |
| Cambria T Strain | 2.50 |
| Euclid Euclid Fruit Co | 2.50 |
| Uplander Euclid Fruit Co | 2.00 |
| Mayflower R J Richardson | 2.75 |
| Buena R J Richardson | 2.30 |
| Elephant Orange Growers' Cash A | 3.10 |
| Sunshne Orange Growers Cash A | 2.70 |
| Plain Ends Orange Growers C A | 2.25 |
| Carnation M & G Co | 3.20 |
| Daisy M & G Co | 2.25 |
| Redlands' Best M O District | 2.50 |
| SWEETS— | |
| Ocean Speich & Co | 2.05 |
| Success Speich & Co | 1.80 |
| Merit Speich & Co | 1.55 |

ST. MICHAELS—Blue Globe, $2.60; do half boxes, 1.35; Red Globe, $2.35.

LEMONS—Flower, Growers' Fruit Co., $1.10; Stock Label, 90c.

GRAPEFRUIT—Orchard, half boxes, $1.15; Mayflower, $1.20; Champion, half boxes, 90c; Redlands' Best, $1.40.

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NEW YORK, Aug. 9.—Six cars oranges and one car lemons sold. Very steady on oranges, weak on lemons. Weather cool, cloudy.

| VALENCIAS— | Average. |
|---|---|
| Euclid, Euclid Fruit Co | 2.90 |
| Uplander Euclid Fruit Co | 1.75 |
| Albion T Strain | 2.70 |
| Cambria T Strain | 2.15 |
| Aurora E Peycke Co | 3.35 |
| A-One E Peycke Co | 2.35 |
| Vista Bonita A F Hemet | 3.25 |
| Lake Hemet AF Hemet | 2.85 |
| Mission Indian A F Hemet | 2.15 |
| Golden Rule Riverside Exchange | 2.40 |
| Titus Ranch San Marino GPA | 2.65 |
| El Toreador San Marino GPA | 2.50 |
| LEMONS— | |
| Homer Queen Colony Corona | 1.40 |
| Camel | 1.05 |

ST. MICHAELS—La Mesa, $2.40.

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ST. LOUIS, Aug. 9.—Hot and muggy. Market continues very much depressed on oranges; firm on good stock lemons. Seven cars sold.

| VALENCIAS— | Average. |
|---|---|
| Royal QC Corona | 1.75 |
| Defender Altland Fruit Co | 2.15 |
| Owl OK Exchange | 1.30 |
| Buseada Altland Fruit Co | 1.60 |
| LEMONS— | Average. |
| Orchid Altland Fruit Co | 3.40 |
| Corona Beauty QC Corona | 1.60 |
| Duck SA Exchange | 2.20 |
| Commercial AH Prenda | 1.25 |
| Buscada Altland Fruit Co | 2.65 |
| Arab SA Exchange | 3.25 |
| Housewife Riverside Arlington Sta | 1.20 |
| SWEETS— | |
| Queen Bee | 1.10 |
| Sunset | 1.05 |

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CLEVELAND, Aug. 9.—Two cars Valencias, one car seedling, two cars mixed and four cars lemons sold. Market higher, both oranges and lemons. Weather warm.

| VALENCIAS— | Average. |
|---|---|
| Pointer A-C-G Ex Glendora | 3.00 |
| Belt RH Ex E High | 1.50 |
| Floral San Bernardino Ex Colton | 2.35 |
| Greyhound San Antonio Ex | 2.20 |
| LEMONS— | |
| Matador AH Ex Prenda | 1.30 |
| Pico Semi-Tropic Ex Whitier | 1.95 |
| Arab San Antonio Ex | 3.10 |
| Duck San Antonio Ex | 2.40 |
| Belt RH Ex E High | 1.80 |
| Whittier Semi-Tropic Ex Whittier | 2.85 |
| Pet San Antonio Ex | 3.60 |
| Greyhound San Antonio Ex | 2.95 |
| Housewife, Riverside Ex Arlington | 1.70 |

ST. MICHAELS—Tiger, $2.65; Floral $2.50.

GRAPEFRUIT—Gold Buckle, $1.50; Belt, $1.00.

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PHILADELPHIA, Aug. 9.—Four cars Valencias and one mixed sold.

| VALENCIAS— | Average. |
|---|---|
| Ibex Rivera | 2.45 |
| Whittier Whittier | 2.55 |
| Stag ACG Glendora | 3.30 |
| Aurora E Peycke Co | 2.50 |
| Rivera Rivera | 2.25 |
| Pico Whittier | 2.35 |
| Pointer ACG Glendora | 2.65 |
| SWEETS— | |
| Tiger | 1.85 |
| Floral | 1.45 |
| ST. MICHAELS— | |
| Tiger | 2.30 |
| Floral | 2.10 |

---

PITTSBURG, Aug. 9.—Eight cars sold. Steady on oranges, advancing on lemons. Hot.

| VALENCIAS— | Average. |
|---|---|
| Coyote OK Exchange | 2.25 |
| Stork SA Exchange | 2.80 |
| Jasmine DM Monrovia | 2.55 |
| Owl OK Exchange | 2.10 |
| Mountain Crest SA Exchange | 2.30 |
| Jasmine DM Monrovia | 2.50 |
| LEMONS— | |
| Coyote OK Exchange | 2.55 |
| Troubadour AH Prenda | 1.85 |

---

BOSTON, Aug. 9.—Four cars sold. Hot. Market steady on Valencias; easier on lemons.

| LEMONS— | Average. |
|---|---|
| Gold Buckle RH E Highlands | 2.25 |
| Squirrel AH Prenda | 2.10 |
| Belt RH E Highlands | 2.00 |
| VALENCIAS— | |
| Quail Nordhoff | 3.05 |
| Security Nordhoff | 2.70 |
| GRAPEFRUIT— | |
| Royal | 1.55 |
| SWEETS— | |
| Queen Bee | 1.70 |

---

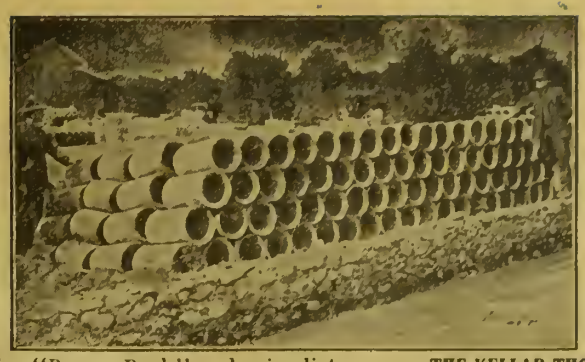
CINCINNATI, Aug. 9.—Warm. Market steady. Two cars oranges, two cars lemons sold.

| VALENCIAS— | Average. |
|---|---|
| Security Nordhoff | 2.15 |
| Greyhound SA Exchange | 2.15 |
| LEMONS— | |
| Justrite QC Corona | 2.00 |
| Silence Flagler Fruit Co | 2.60 |
| Minerva QC Corona | 1.40 |

---

NEW YORK, Aug. 10.—Eleven cars oranges sold. Weather hot and sultry.

| VALENCIAS— | Average. |
|---|---|
| Carnation M & G Co | 3.15 |
| Daisy M & G Co | 2.30 |
| Blue Globe Riverside Ex Riverside | 2.80 |
| Red Shield ACG Exchange | 2.30 |
| Green Crown ACG Exchange | 2.10 |
| Palm Tree AH Exchange | 1.80 |
| Titus Ranch San Marino GPA | 2.75 |
| El Toreador San Marino GPA | 2.00 |
| Dos Palmas San Marino GPA | 2.50 |
| El Toreador San Marino GPA | 1.85 |
| Aurora E Peycke Co | 3.05 |
| A-One E Peycke Co | 2.45 |
| Old Mission C C Chapman | 4.00 |
| Golden Eagle C C Chapman | 2.70 |
| Majestic C S Spencer | 2.35 |

From photograph showing amount of

**Ten-Inch Pipe**

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

**"K T" Moulds**

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THE KELLAR-THOMASON MFG. CO., Covina, Cal

**Vacation in the Mountains**
**GO TO**
**Lake Tahoe**
**High Up in the Sierra Nevadas**

Where you may fish, hunt, ride, drive, sail and enjoy all the pleasures that abound at this famous resort.

**$23 Round Trip**

**From Los Angeles, Saturdays, August 7, 14, 28**

Limit for return, 21 days—with stopover privilege at San Francisco on return trip. Also at Merced, in order to visit Yosemite Valley.

Proportionate rates from Santa Barbara, Ventura, Oxnard, Long Beach, San Pedro, Santa Ana, Pasadena, Ontario, Pomona, San Bernardino, Riverside and Redlands.

Ask for literature and details.

**600 So. Spring Street, Cor. Sixth**
**Arcade Sta., 5th St. and Central Ave.**

**Southern Pacific**


| MEDITERRANEAN SWEETS— | |
|---|---|
| Ocean Speich & Co | 1.95 |
| Success Speich & Co | 1.55 |
| Merit Speich & Co | 1.40 |
| Red Globe Riverside Exchange | 1.85 |
| California Orange Riverside Ex | 1.65 |
| SEEDLINGS— | |
| Red Globe Riverside Exchange | 1.80 |
| California Orange Riverside Ex | 1.55 |
| ST. MICHAELS— | |
| Red Globe Riverside Exchange | 2.35 |
| Squirrel | 2.35 |
| Palm Tree AH Exchange | 1.95 |
| Blue Globe (½s) Riverside Ex | 1.35 |

---

BOSTON, Aug. 10.—Nine cars sold. Hot. Market steady on oranges, easier on lemons.

| VALENCIAS— | Average. |
|---|---|
| Crocus SB Ex Yerkes Spur | 2.90 |
| Golden Rule Riverside Ex River | 2.65 |
| Stag ACG Ex Glendora | 3.90 |
| Carnation M & G Co | 3.35 |
| Majestic C S Spencer | 2.50 |
| El Toro California Citrus Union | 1.55 |
| Cosmos SB Ex Yerkes Spur | 2.45 |
| Golden Riverside Exchange | 2.30 |
| Pointer ACG Ex Glendora | 3.00 |
| Daisy M & G Co | 2.65 |
| Climax E Peycke Co | 1.70 |
| LEMONS— | |
| Cosmos SB Ex Yerkes Spur | 2.50 |
| Mocker Sperye Fruit Co | 1.75 |
| Shasta | 2.50 |
| MEDITERRANEAN SWEETS— | |
| Queen Bee | 1.45 |
| ST. MICHAELS— | |
| Queen Bee | 2.05 |
| La Mesa | 2.30 |
| Golden | 2.20 |
| La Mesa (red) | 2.15 |
| SEEDLINGS— | |
| Shasta | 1.55 |
| GRAPEFRUIT— | |
| Royal | .95 |
| Cosmos | .85 |
| Canna | .85 |
| Stag | 2.00 |


**BIG HATCH OF CHICKS.**

The Pioneer Hatchery Co. is getting ready to set several thousand eggs to get off a big hatch of the early fall chicks, and intend to be able to deliver the chicks about the 6th or 10th of September.

We believe that fall chicks are one of the best investments poultrymen can make. By sending your name to the above company, 112 East 8th St., Los Angeles, and mention this paper they will send you a baby chick and hatching egg book and price list.


---

Imperial Valley's grape season is closing.

60 H. P. Western Pumping Plant

# A Frequent Mistake

made by engine buyers is to suppose that one engine is as good as another, the only difference being in the price. Certainly, many engines can be bought for less money than the WESTERN and this fact sometimes leads the prospective purchaser to the conclusion that to buy a low-priced engine will be an economy. This is not so. The one essential of an economical engine is that it shall give the maximum service for the minimum expenditure. If it is cheapened to a point where it fails to do this, **any** money put into it is an extravagance.

In the WESTERN every detail of design and construction has been to reduce the fuel and maintenance cost to the lowest possible figure. That we have succeeded is being constantly proven where our engines are installed alongside other makes, doing the same work, under the same conditions, developing **more** power, with **less** fuel.

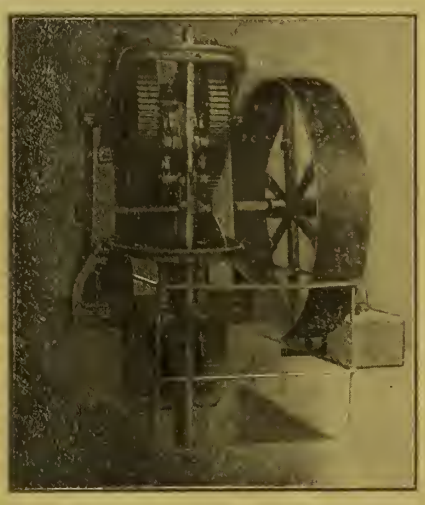
Write for Catalogue.

Have you heard of the Nix-Frost Crude Oil Gas Producer? It's "The Cheapest Power on Earth."

## Western Gas Engine Company

**Northern Branch: San Francisco, Cal.** **Los Angeles. Cal.**

# The Smooth Running, Noiseless Pomona Deep Well Pump



It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

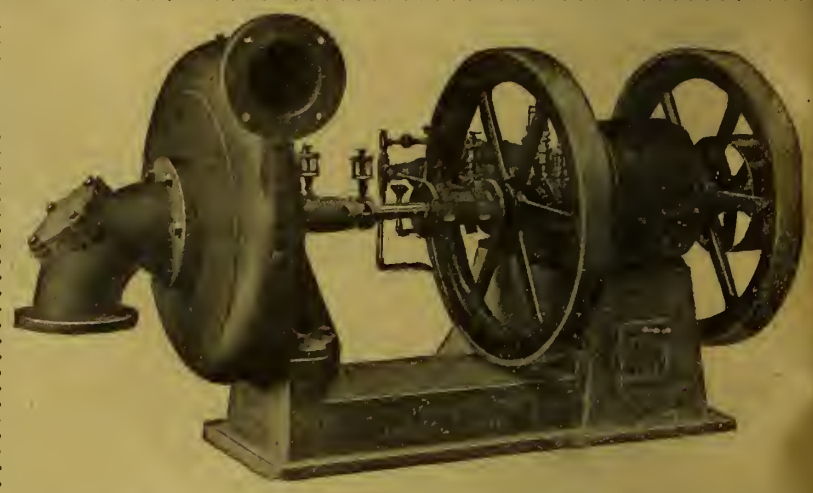
This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.

## POMONA MANUFACTURING CO.

**POMONA, CALIFORNIA**



# BYRON JACKSON IRON WORKS

CENTRIFUGAL PUMP DIRECT, CONNECTED TO GASOLINE ENGINE. WRITE FOR BULLETIN 32.

**SAN FRANCISCO** 351-355 Market Street
**LOS ANGELES** 212 N. Los Angeles St.
**SPOKANE, WASH.** **SEATTLE, WASH.**

## A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

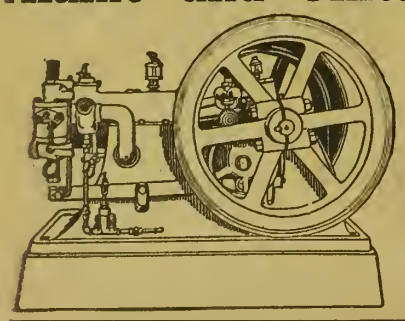
## The Little Wonder

Write or call on

**Wm. Gregory**

602 No. Main St. Los Angeles, Cal.

## Alamo and Union Distillate Engines



**New Stock Just Received**

**Strong in Power**
**Easy to Start and Operate**
**Prices are Right**

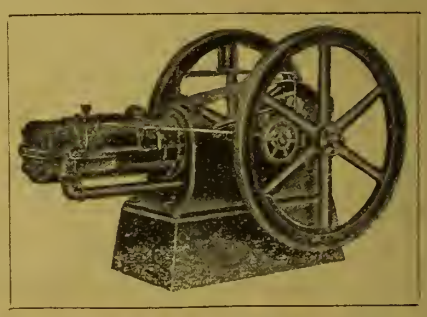
**Bailie & Brandt Co.**
**Engineers and Contractors**
**Office and Works: 943-945 N. Main St., Los Angeles**
Snaps in Exchanged Machinery

## SURFACE IRRIGATING PIPE

Made of a single sheet, 10 feet in length with heavy tapering end, and strong protector on large end. Made in all weights, by the latest improved machinery. The only way to irrigate alfalfa. Am Southern California Agent for Woodmanse Steel Windmill, complete line of repairs always in stock. Write for prices. **F. H. OSLER, Pomona, Cal.**

## *Not too Heavy*
## *Not too Light*
## *But Just Right*

Send for Bulletin No. 12.



## COMMERCIAL ENGINE CO.

**951-955 No. Main St., Los Angeles, Cal.**

## More Water! Less Power!
## Longer Life! Less Money!

The American Pump has come to stay because every man that is using one is boosting for it. Get our prices and our guarantee before placing orders for irrigating plants. Send us your name and we will send you some interesting catalogs.

**HENSHAW, BULKLEY & CO.**
**262-264 South Los Angeles St., Los Angeles Cal.**

# Second Hand Irrigating Plants

Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

**Western Machinery Company**
**230 Main Street, San Francisco, Cal.**

30.5
CA

# California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — August 19, 1909 — San Francisco

# Semi-Tropic Fruits of Hawaii

## The Diversity of the Island Products is Being Made Known More Every Year. Irrigation and Better Knowledge of Soil Conditions Will Make Them Wonderfully Rich Islands

THE Hawaiiasn Islands, as a whole, are of volcanic origin and all rocks from which the soils have been formed, may be considered as basaltic lava. This lava came from craters or crevices formed by volcanic eruption, under a considerable variety of forms, and the original rock material was, therefore, solid, smooth masses of basalt, broken masses of such material containing cavities in which steam and other gases were formed, or finely divided volcanic cinder. From these materials, the present agricultural soils have been formed by processes of disintegration, due to chemical changes, the effects of water, and the growth of plants.

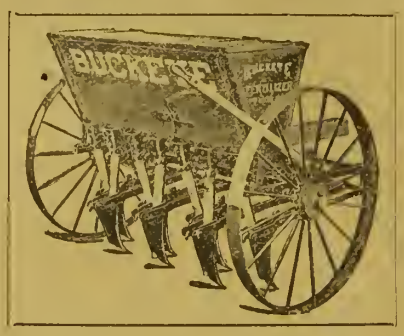
On account of the range of altitude on the different islands, there are conditions suitable for the growth of almost all the agricultural crops of the world. While at present sugar is the main crop, there are also large plantations of coffee, rice, sisal, rubber, fruits, forage plants, etc. Various kinds of hay, alfalfa, matting plants, tobacco, corn, cotton, wheat and other cereals, sorghum, Manila hemp, Sansevieria, and other field crops are found in thriving condition in various parts of the islands. In the production of fruits, there is practically no limit, either in the fruits of temperate climates at higher altitudes, or of tropical fruits at lower altitudes.

For use in orange groves and vineyards there is nothing better than the

# Buckeye Fertilizer Drill

Set of plates furnished **FREE** with each new drill, if desired.

**For Sowing Vetch and Peas**



We have sold a great many carloads of these drills in Southern California and the Buckeye is now recognized by orange growers and fertilizer men as the best drill made for handling commercial fertilizer. Its low wheels, proper sized box, and large feed openings giving great capacity when desired, make it especialy adapted to orchard use.

## Hawley, King & Co.

**224-228 South Los Angeles St., Los Angeles, Cal.**

Wagons, Carriages, Harness, Farm Implements of all kinds

## Our New Location

# BRAUN CHEMICAL CO.

INC.

**906-910 East Third Street**

**LOS ANGELES, CAL.**

**HEADQUARTERS FOR**

Sulphuric Acid (Fumigating)
Spraying Materials
Fertilizing Chemicals
Sulphur, Bluestone, etc.

**SEND US YOUR ORDERS**

## Pioneer Roofing

We tell you to put on a "Pioneer Roof," and forget it. Needs no paint or repairs. Sun proof and rain proof. Not affected by extremes of heat or cold. Suitable for all kinds of buildings—pitched or flat roofs. Comes in handy rolls. Easy to lay—anybody can do it—no special tools needed.

**Now then—Let us send you samples, a copy of our 32-page Roofing Booklet and name of our nearest agent.**

PIONEER ROLL PAPER COMPANY

DEPARTMENT 11-F LOS ANGELES, CALIFORNIA

## Who Wants Laying Hens?

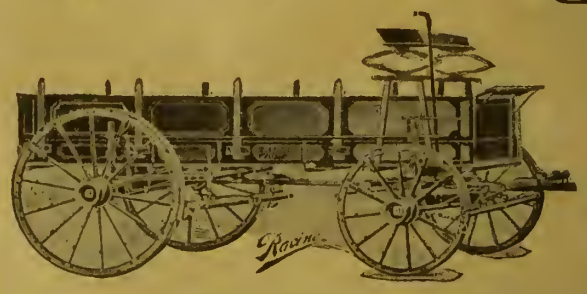
We can supply about 2000 of the following kinds: Barred Rocks, White Leghorns, Buff Orpingtons Brown Leghorns, Rhode Island Reds, and a few of Black Minorcas. All of these hens are from 10 months to 14 months old and are laying right now. We can supply a few pullets of the above at 2 months old—NO OTHER AGES for sale except what is listed above. Don't forget that we will have off a big hatch of chicks September 8th. Send for catalog.

If you need hens state EXACTLY how many you need and when, and we will make you the lowest possible price.

## The Pioneer Hatchery Co.

**112 East 8th Street** **Los Angeles, Cal.**

## Racine Wagons




The Manufacturers of the

**Genuine Racine Wagon**

have been making the **Best Wagon** on the market for 60 years. For the past few years on account of the increase in the cost of the materials, they have lost money on every wagon turned out. In fact, they make too good a wagon to sell at the ordinary wagon price. A few weeks ago, they raised the price of **Racine Wagons,** ten per cent.

**We Bought Several Carloads Before the Raise**

And are selling them at the old price while the stock lasts.

**All Sizes and Prices In Stock**

**We Pay the Freight**

Write at once for prices and terms.

## Southwest Supply Co.

**The RACINE Line**

**127 South Los Angeles Street** **Los Angeles, Cal.**

**Vacation in the Mountains**

**GO TO**

# Lake Tahoe

**High Up in the Sierra Nevadas**

Where you may fish, hunt, ride, drive, sail and enjoy all the pleasures that abound at this famous resort.

## $23 Round Trip

**From Los Angeles, Saturdays, August 28, Sept. 4, 11, 18, 25**

Limit for return, 21 days—with stopover privilege at San Francisco on return trip. Also at Merced, in order to visit Yosemite Valley.

Proportionate rates from Santa Barbara, Ventura, Oxnard, Long Beach, San Pedro, Santa Ana, Pasadena, Ontario, Pomona, San Bernardino, Riverside and Redlands.

Ask for literature and details.

**600 So. Spring Street, Cor. Sixth**

**Arcade Sta., 5th St. and Central Ave.**

## Southern Pacific

# California Cultivator

Vol. XXXIII—No. 8 Los Angeles, California, Thursday, August 19, 1909 Subscription $1 a Year


# Morning Glory Pest of the Ranches

## A Strong Hand Should be Taken With This Weed

OF ALL the weed pests with which California is troubled we do not doubt the morning glory is the worst. It does not seem to be at all exclusive in its requirements. It does remarkably well in the damper sections, and shows no dread of hill sides which are so dry that but few other forms of life will exist. No other crop has been found which will in any way compete with it, and it goes on each year claiming larger circles of land.

Queries are continually coming in to this office for suggestions as to how this pest may be combatted. Some have asked if salt would answer, or an acid, or any spray which kills the tops, and so on. On one ranch we know carload after carload of salt has been used in killing it. At the time we saw the experiment being tried, some four or five years ago, the manager of the ranch said that while the salt application destroyed the soil for a period of years, the pest was so serious that he considered it necessary to employ this severe means of preventing its spread over the rest of the ranch. The salt was spread several inches deep over the entire patch and beyond its farthest tips, and of course was effective. It is, however, expensive to apply, and expensive in loss of land until several winters' rains have leached away the salt.

Another method of killing it out has been by the use of tar or heavy building paper. At each lap the paper is covered with a few shovelfuls of dirt to hold it together so as to exclude air. This is effective, as the tops are killed in a very few days, and it has been found that within a few weeks, in hot weather, the entire root system is dead. This of course looks very successful, and on valuable land where expense is not a factor, it may prove satisfactory. The cost is not far from a dollar per square rod.

Digging by hand, even to the extent of screening the soil may be resorted to, but it is fearfully expensive and not absolutely sure. Sulphuric acid has been tried and is effective if used in sufficient strength, but is some four or five times as expensive as the smothering by tarred paper.

Our investigations in many parts of the country show that the pest cannot be controlled easily or cheaply. It is serious, and serious measures must be taken to rid the fields of it.

We refer to this pest as "it" though there are several different varieties. Two at least we may mention, the annual and perennial, the latter with small white flowers and root which goes on extending its field forever by rhizomes. The annual is comparatively easy to eradicate. If one is careful to plow before the crop goes to seed and continue after for a few days, the land is in condition for culture of other crops. In the case of the perennial, if but the smallest piece of the root is left in the ground, that is sufficient to start the next year's crop.

One of the first essentials in handling the perennial weeds is to prevent their being scattered to other parts of the fields. The cultivator or other tool should be put upon one patch and thorough work done. Then the tool should be very carefully cleaned so that not the smallest piece of the weed clings to it, before it is taken to any other part of the place.

(Continued on Page 180.)

# Marking of Tents for Fumigation

## Manner of Marking and Table for Acid and Cyanide Measurements

OWING to the letter from Mr. Woglum in last week's Cultivator, new interest is given to the matter of marking tents and securing of information as to dosage from the marks. We therefore reprint charts originally used in the Cultivator last August. With these charts we quote from Bulletin 79 of the Division of Entomology, written by Mr. Woglum.

In the past many persons have been prone to look upon fumigation as a process that is complex and more or less mysterious. In some cases fumigators of years' experience have encouraged this widely prevailing opinion, so that they might themselves be looked upon as experts in a practice difficult to understand and only capable of being successfully performed by men of long experience and special qualifications. This is, of course, erroneous. The improved system outlined in these pages shows how simple the practice of fumigation may be made. Careful men who have never before heard of fumigation can begin the practice of this system and are competent, after instruction for a short time, to secure as good results as might be expected from the most expert fumigator in California. This system reduces fumigation to a matter of simple mechanical operation, entirely intelligible to the average man, and one wherein the operator, to obtain the best results, is required merely to proceed according to the formulas and directions given.

### Marking the Tent.

In figure on pages 175 is shown an outline of a regulation fumigating tent marked after the Morrill system. Three parallel lines and one line at right angles to them are indicated on the tent. The middle one of the three parallel lines passes through the central point in the tent canvas running lengthwise of the central section or strip of which the tent is made and passing over the top of the tent from the edge on one side to the edge on the opposite side; these lines also run in the direction in which the tent should be pulled on or off a tree. The single line at right angles to the parallel lines passes through the central point, as does the middle one of the three parrallel lines, and extends also from the edge on

(Continued on Next Page.)

| | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 1 | 1 | 1 | 1½ | 1½ | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 12 | 1½ | 1½ | 1½ | 1½ | 2 | 2 | 2½ | | | | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 14 | 1½ | 2 | 2 | 2½ | 2½ | 2½ | 3 | 3 | 3½ | 4 | 4½ | 5 | | | | | | | | | | | | | | | | | | | | | 14 |
| 16 | 2 | 2½ | 2½ | 3 | 3 | 3 | 3½ | 3½ | 4 | 4½ | 5 | 5½ | 6 | 7 | | | | | | | | | | | | | | | | | | | 16 |
| 18 | | | 3 | 3 | 3½ | 3½ | 4 | 4½ | 4½ | 5 | 5½ | 6 | 7 | 7½ | 8 | | | | | | | | | | | | | | | | | | 18 |
| | | | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | |
| 20 | | | | 3 | 4 | 4½ | 5 | 5½ | 5½ | 6 | 6½ | 7 | 7 | 8 | 8½ | 9 | 9½ | | | | | | | | | | | | | | | | 20 |
| 22 | | | | | 4½ | 5 | 5½ | 6 | 6½ | 7 | 7½ | 7½ | 8 | 8½ | 8½ | 9½ | 10 | 10½ | | | | | | | | | | | | | | | 22 |
| 24 | | | | | | 5½ | 6½ | 7 | 7½ | 8 | 8½ | 9½ | 9 | 9½ | 10 | 10½ | 11 | 11½ | 12 | | | | | | | | | | | | | | 24 |
| 26 | | | | | | | 7 | 8 | 8½ | 9 | 9½ | 10 | 10½ | 10½ | 11 | 11 | 11½ | 12 | 13 | 14 | 14 | 15 | | | | | | | | | | | 26 |
| 28 | | | | | | | | 8½ | 9½ | 10 | 10½ | 11 | 11½ | 11½ | 12½ | 12½ | 13 | 13½ | 14 | 14 | 15½ | 16 | | | | | | | | | | | 28 |
| | | | | | | | | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | |
| 30 | | | | | | | | | 10 | 11 | 11½ | 12 | 12½ | 13 | 13½ | 14 | 14½ | 14½ | 15 | 15½ | 16½ | 17 | 18 | 19 | 20 | 20 | 21 | | | | | | 30 |
| 32 | | | | | | | | | | | 12 | 12½ | 13 | 14 | 15 | 15½ | 16 | 16½ | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 21 | 22 | | | | | | 32 |
| 34 | | | | | | | | | | | | 13 | 14 | 15 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 23 | | | | | | 34 |
| 36 | | | | | | | | | | | | 14 | 15 | 16 | 17 | 17 | 18 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 25 | | | | | | 36 |
| 38 | | | | | | | | | | | | | 16 | 16 | 17 | 18 | 19 | 20 | 21 | 21 | 22 | 23 | 23 | 24 | 24 | 25 | 25 | | | | | | 38 |
| | | | | | | | | | | | | | 40 | 42 | 44 | 46 | 48 | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | |
| 40 | | | | | | | | | | | | | | 17 | 18 | 19 | 20 | 21 | 22 | 22 | 23 | 24 | 24 | 25 | 25 | 26 | 26 | 27 | 27 | 28 | | | 40 |
| 41 | | | | | | | | | | | | | | 18 | 19 | 20 | 21 | 22 | 22 | 23 | 24 | 24 | 25 | 25 | 26 | 26 | 27 | 27 | 28 | 28 | 29 | | 41 |
| 42 | | | | | | | | | | | | | | | 20 | 20 | 22 | 22 | 23 | 24 | 25 | 25 | 26 | 26 | 27 | 27 | 28 | 28 | 29 | 29 | 30 | 30 | 42 |
| 43 | | | | | | | | | | | | | | | | 21 | 22 | 23 | 23 | 25 | 25 | 26 | 26 | 27 | 27 | 28 | 28 | 29 | 29 | 30 | 30 | 31 | 43 |
| 44 | | | | | | | | | | | | | | | | | 23 | 23 | 24 | 25 | 26 | 26 | 27 | 27 | 28 | 28 | 29 | 29 | 30 | 31 | 31 | 32 | 44 |
| | | | | | | | | | | | | | | | | | | 50 | 52 | 54 | 56 | 58 | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | |
| 45 | | | | | | | | | | | | | | | | | | 24 | 25 | 26 | 26 | 27 | 27 | 28 | 29 | 29 | 30 | 30 | 31 | 31 | 32 | 33 | 45 |
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| 48 | | | | | | | | | | | | | | | | | | 25 | 26 | 27 | 28 | 28 | 29 | 29 | 30 | 31 | 32 | 32 | 33 | 34 | 35 | 36 | 48 |
| 49 | | | | | | | | | | | | | | | | | | 26 | 27 | 28 | 28 | 29 | 29 | 30 | 31 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 49 |
| | | | | | | | | | | | | | | | | | | | | | | | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | |
| 50 | | | | | | | | | | | | | | | | | | | | | | | 30 | 31 | 31 | 32 | 33 | 33 | 35 | 36 | 37 | 38 | 50 |
| 51 | | | | | | | | | | | | | | | | | | | | | | | 31 | 31 | 32 | 33 | 33 | 34 | 36 | 37 | 38 | 39 | 51 |
| 52 | | | | | | | | | | | | | | | | | | | | | | | 31 | 32 | 33 | 33 | 34 | 35 | 37 | 38 | 39 | 41 | 52 |
| 53 | | | | | | | | | | | | | | | | | | | | | | | 32 | 32 | 33 | 34 | 35 | 36 | 38 | 39 | 40 | 41 | 53 |
| 54 | | | | | | | | | | | | | | | | | | | | | | | 32 | 33 | 34 | 35 | 36 | 37 | 39 | 40 | 41 | 42 | 54 |
| | | | | | | | | | | | | | | | | | | | | | | | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 76 | 78 | |
| 55 | | | | | | | | | | | | | | | | | | | | | | | 33 | 34 | 35 | 36 | 37 | 37 | 40 | 41 | 42 | 43 | 55 |
| 56 | | | | | | | | | | | | | | | | | | | | | | | 34 | 35 | 36 | 37 | 37 | 38 | 40 | 42 | 43 | 44 | 56 |
| 57 | | | | | | | | | | | | | | | | | | | | | | | 34 | 35 | 36 | 37 | 38 | 39 | 41 | 42 | 43 | 45 | 57 |
| 58 | | | | | | | | | | | | | | | | | | | | | | | 35 | 36 | 37 | 38 | 39 | 40 | 42 | 43 | 44 | 46 | 58 |
| 59 | | | | | | | | | | | | | | | | | | | | | | | 36 | 36 | 38 | 39 | 40 | 40 | 42 | 43 | 45 | 47 | 59 |

Table For Determining Dosage.

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**Solid Steel**

## Pruning Shears

**Will Snip a Broom Handle**

That gives you an idea of the strength and quality of the pruner. Wiss Pruning Shears will outlast a dozen ordinary ones. They will cut tissue paper. That shows how nicely they are adjusted. Nurserymen and growers of fine trees use them in preference to all other shears—they will cut clean the thickest twigs or the most delicate tendrils without tearing.

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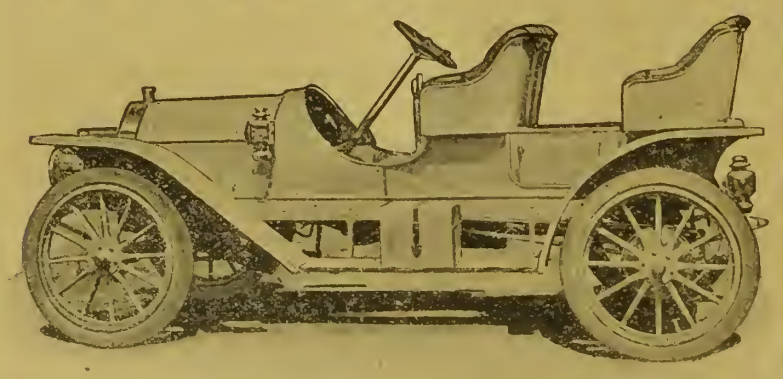

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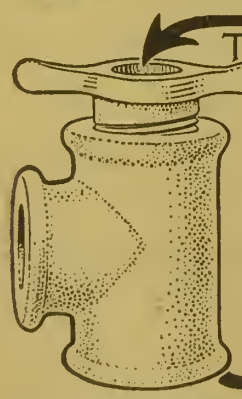

Simple in design and construction, costs less and will last longer than any other on the market.

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# With the Citrus Growers

### NITROGEN GATHERING BACTERIA

TO many people the name bacteria means some kind of dangerous germ life that is all very interesting to scientists, but entirely too difficult a matter for ordinary people to think about or attempt to understand While this may be true in a sense, it is also true that while we may not have the opportunity of studying these minute forms of life under the microscope, we may learn how to use them to best advantage and leave their selection and breeding in the hands of the specialist just as we learn how to use the electric current for light and power without knowing how to produce it. We use yeast every day in our households, which is a preparation, the efficiency of which is due to the gas making bacteria (fungi) which it contains, and the good results are due to the fact that we have learned how and when to use it.

The soil in our fields is full of thousands of different kinds of bacteria, each having a different kind of work to perform, and scientists for many years have been carefully selecting and studying the uses of different kinds to the end that the beneficial bacteria might be used more largely in improving worn out soils and maintaining the fertility of our land.

Dr. Earp-Thomas at his laboratory in Bloomfield, N. J., is carrying out experiments with bacteria which may prove a great advance possible over our present methods of fertilization, but to benefit by his experience and get the best results, we must use these minute organisms intelligently and study the conditions under which they will produce results.

Farmers who know of the great value of alfalfa for a forage crop have become discouraged after repeated failures to grow it, and have been led to believe that it was impossible to succeed with it, except in certain favored localities. Now, this is a wrong impression. Some conditions, such as wet, soggy land, or land with close lying hard-pan sub-soil, would be most unfavorable, but the writer feels safe in saying that 80 per cent. of the farms of the country can grow this wonderful crop to good advantage if three things are properly attended to, viz: proper cultivation of land before planting; the use of plenty of lime and the introduction of highbred bacteria that have been grown in a jelly. This is important, as the only preparations of bacteria that the writer has ever seen that were pure were raised and sent out in this way.

It is in most cases impossible to detect the presence of other bacteria in a liquid, whereas when grown on the surface of the jelly-like food, any contaminations are apparent, and can be promptly destroyed. Avoid cultures sent out in bottles that will not admit a supply of air, as the bacteria soon exhaust the air in the bottle, become dormant, and eventually die.

If you intend to use bacteria, perhaps the first matter to consider is whether the soil is in right condition. Many people fail to get results from the use of bacteria because they invariably attribute a crop failure to lack of fertilizer, when in many cases it is due to bad cultivation, acid conditions, etc. Now, nitrogen gathering bacteria are plants, the successful growth of which is subject to a great extent to soil conditions, and if they are to be successfully used as a means of furnishing nitrates, the condition of the soil must be considered. Land that has not been well cultivated, becomes favorable for the growth of an army of bacteria that produce acid or sour conditions that are unfavorable to nearly all crops, and the beneficial nitrogen gathering bacteria are no exception to this rule. Lime and proper cultivation rectify this trouble, because the lime kills these bacteria. Many agriculturists believe that all that is necessary when the land is in right condition is to plant the clover, peas, beans or other legumes, and that in places where these plants have been successfully grown before, there will be an ample supply of bacteria ready to do the work, or that where a legume crop, that is new to a locality, such as alfalfa, is to be grown, all that is necessary is to secure some soil from an old field in another locality, spread this and thus supply the bacteria. Now, leaving out the question of the danger of transfer by this means of soil diseases and weeds, it seems to me that when we can secure bacteria that have been bred to secure high power for producing nitrogen, and in such form that all we have to do is to put them on the seeds before planting, the first plan is about as sensible as it would be to secure a supply of wild strawberry plants for the garden, or try to improve our cattle by the introduction of worn out strains.

The nitrogen gathering bacteria are not a "cure-all," and would be of no use where soil or plant diseases are responsible for crop failure. Neither do they take the place of phosphates, potash and lime. What they will do under fair conditions is to supply nitrates, and nitrates in most cases are what our land is most sadly in need of. People are coming to realize more fully the advantage of planting a legume,, and treating this with bacteria to make nitrates for the next season.—B. N. J.

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### FUMIGATION.

(Continued from Page 171.)

one side to the edge on the opposite side. Beginning at the center these lines are graduated in feet toward either edge of the tent, after the manner shown in the diagram. For tents above 36 feet (average size) it is unnecessary to commence the graduation nearer than 5 feet from the center of the canvas. When one of these lines is over the middle of the tree the distance over can be calculated by merely adding together the two numbers on the opposite sides of the tent where the edge touches the ground. For instance, suppose that on the line over the center of the tree 12 is nearest the ground on one side and 15 on the other. The distance over the center of this tree would be the sum of these numbers, which is 27 feet. With the lines graduated after this manner it makes little difference in determining the distance over the top of the tree whether or not the geometrical center of the tent is at the center of the tree, the single requirement being that some part of

one of the graduated lines approximates the center of the tree.

The two lines running parallel to this central line should be about 4 feet distant from it in the larger fumigating tents. The reason for using these auxillary lines is, that in practice the center of the tent is very often pulled considerably to one side, especially in covering small trees. If the middle line does not fall immediately over the center of the tree, one of the other two lines is quite likely to do so, and that one should be used in obtaining the distance over.

The cross line running at right angles to the three parallel lines also passes through the center of the tent and is marked like the others. In case of an irregularly shaped tree, by the use of this line the distance over can be taken in two different directions and the average taken for use in determining the cubic contents. In field work, however, this cross line is unnecessary, as measurement over the top in one direction is sufficient.

The measurement around the bottom of the tent can be obtained by the use of a tapeline or by pacing. Under this system the work is facilitated by having a chart or table of figures showing the cubic contents corresponding to different dimensions.

An engraving of the chart used by Mr. Woglum and many other fumigators appears on the preceding page. Regarding the use of it the Bulletin says:

### How to Use the Chart.

The top of line numbers commencing at 16 and continuing through 18, 20, 22, etc., up to 78, represents the distance, in feet around the bottom of the tent. The outer vertical columns of larger numbers, on either side, commencing at 10 and increasing regularly to 59, represent the distance, in feet, over the top of the tent. The dosage of a tree of known dimensions is found in that square where the vertical column headed by the distance around the tree intersects the horizontal line of figures corresponding to the distance over. For instance, we have a tree 40 feet around by 28 feet over. Loking in the top line of numbers we find 40 next after the third heavy vertical line. The dosages computed for trees 40 feet around are to be found in the vertical column headed by this number, which commences with 6 and ends with 16. Then we glance down the vertical column of large figures at either margin until we come to 28. All dosages computed for trees 28 feet over are found in this horizontal line of figures, which commences with 8½ and ends with 16. The dosage for a tree 40 by 28 feet is found at the intersection of this line with the vertical column headed with 40, that number being 11½, the required dosage of cyanide in ounces. Before the numbers 20, 30, 40, 45, 50 and 55, in the lines at the right and left margins are to be found blank spaces, and in the horizontal lines corresponding to these the numbers at the top of the chart are repeated in that part of the chart contining dosage figures. These numbers, repeated in this manner, make is easier for the eye to locate with certainty the dosage figures sought. In the chart used by the writer, the figures representing distances around and over are printed in red. The lines bounding these columns of figures are also red. All the rest of the lines and figures are black.

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J. L. Dexter, East Orange, N.J., in a recent letter stated: "There is no doubt about Absorbine as a cure for shoe boils. One of my mares developed one recently (very large). In not over three days, by the use of Absorbine, I took the same out clean, and I can therefore testify to its value for the cure of shoe boil." If you have a similar case apply the Absorbine full strength two or three times a day, and at night after applying the Absorbine, spread on a coating of soft, wet clay made in the form of a paste. This will dry and crumble off before morning, but for the few hours it remains moist, it will sweat in the remedy and draw out the inflammation. Absorbine at druggists $2.00 per bottle or sent express prepair upon receipt of price. Write today for free booklet, to W. F. Young, P.D.F., 244 Temple St., Springfield, Mass.



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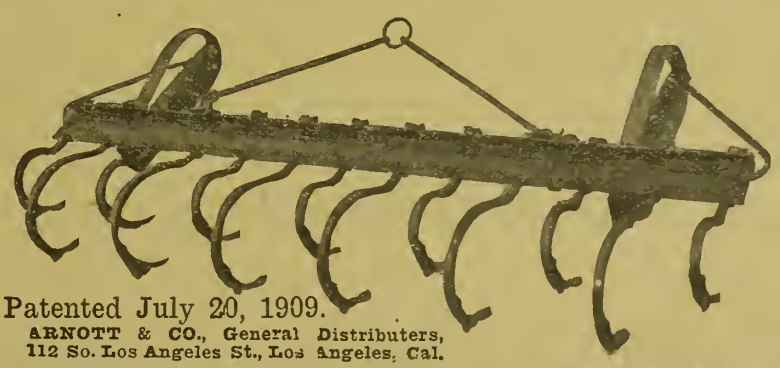

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# Deciduous Fruit Culture

By J. W. Mills

## SUMMER PRUNING OF FRUIT TREES.

THE seasons when pruning is most generally practiced are summer and late fall, summer pruning being conducted at various times through the summer, and winter pruning principally in December to February By adopting a proper system of summer pinching and stopping much good may result to the branches retained from their being more exposed to the light, and there will be less need of cutting severely in the winter. When branches are allowed to grow at will, particularly towards the center of the tree, they frequently become too vigorous for fruit-bearing themselves, and by utilizing the sap render others unproductive. If attention to summer stopping in such cases is neglected, and the strong branches are removed at the next winter pruning, it invariably happens that a difficulty arises in getting the flow of the sap equalized, and the next spring other even stronger shoots start from the position where those of the previous year have been taken away.

Summer pruning, then, in relation to permanent training, may commence as soon as the relative strength and position which the young shoots are likely to take can be ascertained. It must be continued at intervals, according to the subject under treatment and its natural mode of fruit-bearing. Trees that produce fruit on the short side branches, which are usually termed spurs, may be subject to a course of summer pruning with a view to the production of those spurs furnished with blossom-buds.

This work must not be performed before the shoots have reached a certain stage, else the buds at the base of the spurs left will develop into growth the same season, instead of remaining dormant and forming themselves into fruit-buds for the next. July or August is generally the most suitable month; the wood is by that time partly solidified, and if the leading branches are left unstopped, and there is a crop of fruit. most of the sap will be utilized. It not infrequently happens that fruit trees which bear on spurs become from constant pruning too thickly furnished with them, and some get long and unfruitful. It is then best to cut same back hard at the winter pruning, only leaving such as are properly situated. In most cases other shoots will proceed the next year from near the place where the old spurs have been taken away, and these may in due course be subjected to similar treatment, and allowed to remain if there is sufficient space.

The summer pruning of fruit trees which do not bear on spur branches is of an entirely different character. Apples, apricots, pears and plums—four of our principal fruits—bear more or less on what is called young wood—that is, wood made during the previous year. Summer pruning of these trees consists, therefore, in cutting out whatever wood is known to be useless, and in laying in and encouraging new shoots to take its place.

Disbudding may be considered a branch or part of pruning, inasmuch as the young shoots removed thereby at an early stage have not to be taken out afterwards, and the full exposure to the light, which is such an essential condition, is insured to the foliage of those that are allowed to remain.—St. Jo. Fruit Grower.

## THE USE OF THE MULCH.

The practice of mulching for potatoes has much to commend it in hot, dry climates, as the mulch conserves the soil moisture, but is not so successful in a wet season unless the ground selected is well drained. Another reason for the use of mulches is that it saves cultivation in the busy season, and in this respect early mulching is preferable to late mulching. A writer in The Agricultural Gazette, of New South Wales, says:

"Perhaps no other field or garden crop is more benefited by a liberal mulch of wheat straw (or other litter) than potatoes, and especially is this the case with the second crop planted, say, January. If the soil be well fined, the potatoes planted closely and covered shallow, and a mulch of from one to three or four, or even six inches of straw applied immediately upon planting, good results are sure to follow. The potatoes will need no cultivation if the straw be applied at once before a packing rain. It prevents the packing of the soil by such a rain, breaking the force of the descending drops, and letting them down to seep slowly into the soil; and, intervening between soil and wind and sun, keeps it there, very largely, at least. It would be a (very) bad year if potatoes failed to do well under such treatment.

"If every farmer who grows wheat will try the following plan he will, in a figurative sense, convert his wheat straw into potatoes: As soon as the stripper has harvested the grain, mow the straw with mowing machine or scythe and rake into windrows, with horse rake or otherwise. Immediately plow and harrow the land between the windrows, and plant the potatoes in the usual way, only they may be planted in rows closer together than the usual distance, in order to economize the mulch. Plant in shallow furrows, and cover with harrow, leaving the land perfectly level. Cover at once with the mulch of straw to whatever thickness you may have straw sufficient for, and the work is done. The potatoes will come up through the straw and flourish, and never be troubled by weeds. No further cultivation will be necessary. When the potatoes are gathered, many fine tubers will be found, not only in the soil, and near the surface, but lying on the top of the ground just under the straw."

It is to be noticed that the above was written for a country that is subject to periods of drouth; also that January there corresponds to July in this hemisphere.

Another writer in the same journal describes an extreme type of the mulch method of growing potatoes which may be used on heavy, stiff lands not suited to potatoes, as follows:

"The ground is plowed deeply and harrowed into a good state of tilth; the potatoes are then placed by hand firmly in the soil until they are about half covered; then twelve to fifteen inches of wheaten straw is placed over them; this completes the planting. Nothing more is done until the potatoes are picked—not dug—from under the straw; for they lie on top of the ground around the seed set. * * * The straw forms a protection from the sun and other destructive agents, the same as the earth does when they are grown in the ordinary way."

This method of course commends


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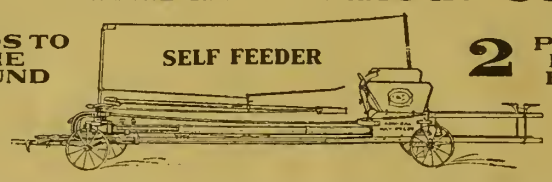


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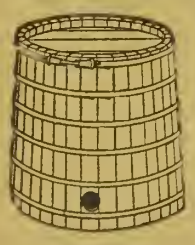

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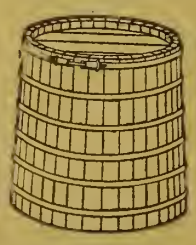

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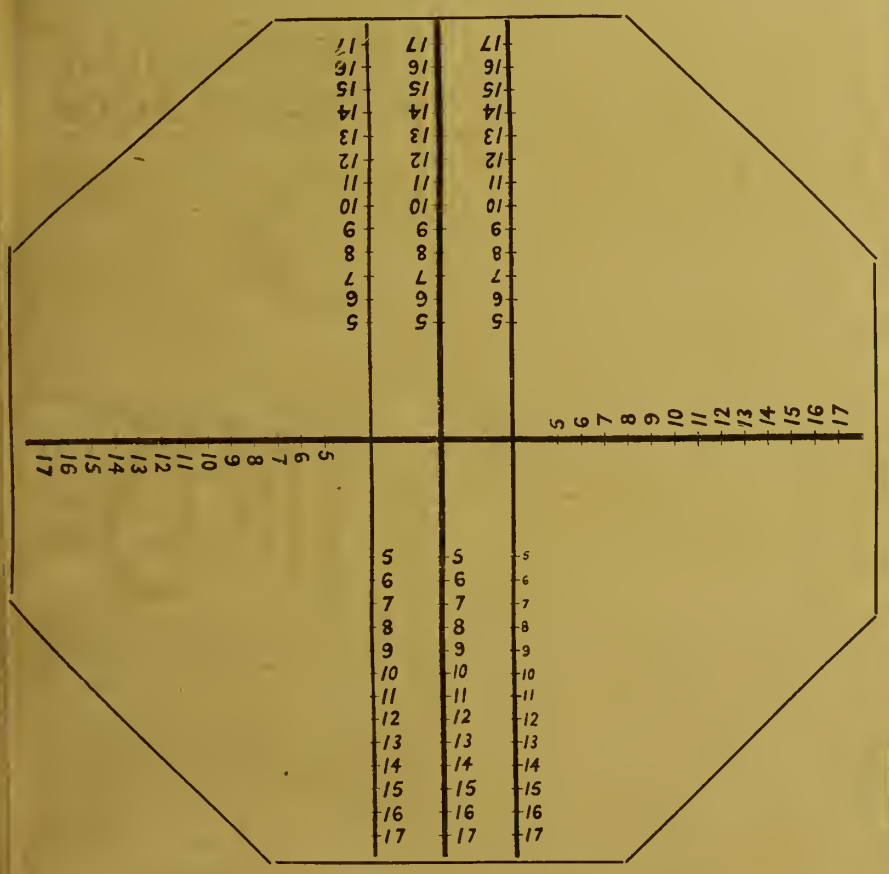
itself only for small scale garden operations, but certainly has the advantages of ease and simplicity. Potatoes so grown can easily be removed from the hill from time to time as they mature.

A method of this kind has been used to some extent in certain parts of this country, where it is known as the "lazy bed." While convenient and economical of labor, it of course is not to be recommended except where better methods of culture are not feasible.



**Outline of Sheet for Fumigation. See Article on Page 171.**

### SHAPING THE TREE.

The modern orchardist plants his trees far enough apart so that the roots and branches will not interlace when the trees have attained their growth. As a consequence the trees are thriftier, they produce as much fruit of better quality and the expense of production is less. Instead of proceeding upon the theory that land can produce hay or garden crops at the same time that it is producing trees, the modern orchardist gives his orchard trees the advantage of all the nourishment the soil contains, thereby hastening growth and securing better trees. He knows that to neglect cultivation of young trees for even a single season will mean halted growth and stunted trees which subsequent attention cannot bring to first-class condition. He recognizes the fact that as a fruit-producing machine a tree is the handiwork of man nearly as much as the production of nature. The modern orchardist does not let nature shape the tree—he shapes it himself with a view to bringing the fruit near the ground, letting in the sunshine and maintaining an even balance. The modern orchardist arranges his buildings, his packing-house and his harvesting appliances with a view to handling the crop economically and putting the fruit on the market in a first-class condition. In this respect he has a very decided advantage over his old-fashioned competitor. He can find the readier market and get the higher price. He reduces his loss of fruit to the minimum and raises the quality to the maximum. He conducts all his operations in a systematic manner, whereas the owner of the old mixed orchard must do most of his work in an irregular and spasmodic way.—Field and Farm.

---

The rice expert from the Department of Agriculture reports that the experimental station near Biggs is showing remarkably satisfactory tests. A large number of different varieties of rice have been planted to determine which particular one is best adapted to that section.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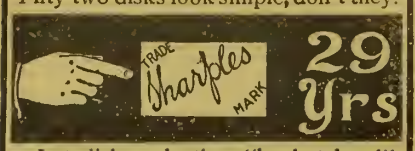
The word "DISKS," shown above, was formed of 52 disks taken from one common "bucket bowl" cream separator a disgusted farmer and his overworked wife discarded for a Sharples Dairy Tubular. The "disk man" misled them by calling this complicated machine simple and easy to clean. Fifty-two disks look simple, don't they?

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Bakersfield, California


# Live Stock and Dairy

By Mrs. Minna E. Sherman

**Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.**

## THE UDDER.

THE udder in the cow has been developed by civilization to furnish food to mankind. The cow is the foster mother of the human race and has far more to do than merely feed her own calf; she has to feed the babies of the master's household. From being merely a family cow, as the country has filled up, the dairy man has come to find in the cow a source of wealth. Today, a cow must prove her value before she is accepted as a member of the herd. The development of the milk producing quality in a cow is best judged by an examination of the milk veins when she is fresh. The milk veins are blood vessels that carry blood, not milk. These veins show the large amount of blood carried by the milk glands. When the udder becomes gorged with blood, the backward pressure of the venous blood enlarges and gorges the veins into a tortuous network over the stomach and extending forward to the milk wells. There are fourteen to seventeen running to the udder from the heart. The milk wells are the openings in the body where the blood returns to the inner parts, for these veins are on the outside and seem to lie just under the thick skin of the cow If the wells are large enough to let me put the ends of two fingers into them I know that the cow is a good one when well fed. Now the examination of size of the milk well is necessary, for if judgment was founded only on the engorged condition of the milk viens we might be mistaken or deceived by tbe contracted condition of the milk wells not allowing the blood to pass freely into the cow's body. Then large milk veins would not be an indication of the value of such a cow. The great amount of blood required to manufacture the milk of a record breaking cow may be understood when we think of Juliana De Kol producing 1850 pounds of milk in thirty days, or rather more than her own weight at that time, every two weeks while she was fresh. Her motber Juliana has never failed to give many times her own weight since 1900, each year of her life. I am expecting great results from the son of old Juliana, Prince Juliana, as his first heifers are now coming into the milking string. Old Juliana has been the producer of heifers rather than of males, and the first of her calves was Juliana De Kol. The next few were heifers until Prince came. She has a beautiful younger son, now a yearling, that will come in later as a head of the herd.

### Udder Structure.

The internal structure of the gland of the udder is very interesting, but cannot be gone into here without making this article too special for a general agricultural paper. Every one should understand that milk is not formed in the udder, except in small quantities, until milking time. Therefore if a cow is used to being milked at a certain hour, her milk flow starts at that hour, just as regularly as a clock and she will call and call for the milker to come and relieve the gorged condition. When he does not come and the time passes, nature begins to take care of things, so that when he comes later on, he gets less than the customary flow. A few days of irregular milking will lessen the amount very materially. A nervous, frightened cow contracts the muscles of the heart, causing pressure, and the milk flow is lessened. Gentleness and quick easy milking will increase a cow's milk every time. It is that easy deft hand in milking that makes milking a trade. The best men are those that follow it all their lives and do not care to do other work. When a milker does all sorts of farm work he will soon have his hands in bad shape for handling the cow's udder properly. Thirty cows make a California string, and when a man milks that many and attends to the milk he has enough work for twenty-four hours.

### Fleshy Udders.

The udder should be large. I believe the largest on record was over six feet around when congested with the milk material before milking time. A fleshy udder will be as large after milking time as it was before, while a good udder will milk down into a slack form and be soft and yielding to the touch. While the udder is supplied with large veins that completely circle it almost like a cord around a bag of pudding, each quarter is supplied with its own separate gland, and this separation makes it possible for one quarter to be caked and inflamed and lost completely, while the rest may remain in good order and give milk. Nature often compensates, and the udder crippled will give nearly as much milk as though complete, by the other quarters taking on greater capacity and yielding more milk.

### Obstructions.

Sometimes there will be one teat that will not milk as easily as the rest, giving a small, weak stream of milk. These cases should be attended to, for often a little hurry in not milking out the quarter clean will produce congestion and a case of garget will ensue that could have been prevented if the milking had been to the last drops. Then I have had a couple of cows that had one teat that splattered the milk over everything when milked. This was caused by an obstruction half way down the teat duct. There are small lancets that come cased in a milking tube intended for the cutting of these strictures. Before using these instruments the cow should be well secured, by first passing a rope from a strong halter around a post in the fence, then bring it down around her body, and pass it around her front leg and back again, around the fence post and out again, around her body and back again around the post, then over her back, and around the hind leg and then down again around the second post of the fence. Let a man hold the loose end in his hand so that


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it can be let go of quickly if the cow struggles too much. This will hold the cow while the teats are cut. The little instrument is greased well and introduced until the obstruction is felt, when it is quickly cut by pressing out the lancet. The tube is turned and cut again at about one quarter way around, and this is repeated until four cuts are made. The lead teat distender is introduced and left in place until next milking time. As it is rather troublesome to milk a cow and introduce these lead probes when the milk flow is great, we usually leave it until the close of the milking period. It is better to use a milking tube and to tie the cow for the first few times, as the place cut is sore at first. A cow is easily spoiled by working with her when you do not have her completely at your mercy by tying her up with a good stout rope. It requires much patience to work on an animal when you hurt it, as it cannot be convinced that you mean it for its good, any more than the children can be convinced of that old fairy tale that "It hurts Mother more to whip you than it does for you to be whipped." Do not try this on either cows or children if you wish to secure good results.—M. E. Sherman.

## FISHY FLAVOR IN BUTTER.

Buttermakers in general have long suffered heavy loss from fishy flavor, a well-known depreciating factor in the butter trade of different countries. It is not uniformly present, but occurs more frequently in some countries than in others. For example, it is much more common in butter from Australia than in the Danish product. In the United States it is prevalent in certain sections of the country, especially in the newer dairy localities, and one such region is known to commission men as the "fishy belt." The cause of this trouble has been a mystery and butter experts have been at a loss to account for its appearance, although many theories have been advanced. Since 1905 the Dairy Division of the Bureau of Animal Industry has been working on the problem, and its investigations have just been reported by L. A. Rogers, who sets forth his findings in Circular 146, which may be obtained on application to the Bureau of Animal Industry, Washington, D. C. It is believed that his conclusions regarding the cause and prevention of the trouble will be of practical value to buttermakers.

Of the undesirable flavors of butter the various oily flavors may be classed as the most objectionable and troublesome. They range from a slight suggestion of oil to a strong flavor of machine oil. In the latter case the inferior quality of the butter becomes evident even to the indifferent consumer. Fishy flavor, which is one of the most common of the oily flavors, gives to butter a peculiar oily taste suggesting mackerel or salmon. Butter is frequently described as fishy which is merely oily or otherwise off flavor, but the typical flavor of fishy butter is never mistaken for any other.

While many things connected with the butter-making industry have been ascribed as the cause, Mr. Rogers is of the opinion that fishy flavor is not produced by the action of any one factor, but so far as he has been able to ascertain the immediate cause is a particular substance produced by the oxidation of one of the combinations of the acid developed in the ripening of the cream. In other words, it is caused by a slow, spontaneous, chemical change to which acid is essential and which is favored by the presence of small amounts of oxygen.

It has been a generally accepted theory among buttermakers that sour cream made the best butter. This idea is reversed by the investigations, which bring forth the conclusion that butter made from sweet cream does not contain the elements that go to make fishy flavor.

In all the experimental butter made in the last three years there has been no trace of fishy flavor in that made from pasteurized sweet cream churned without the addition of a starter. In butter made from pasteurized cream with starter added but without any subsequent ripening there had been no fishy flavor, with one or two doubtful exceptions. On the other hand, many lots of experimental butter made from well ripened cream developed marked fishiness.

It is evident, therefore, that there is a direct relation between the acidity of cream and the development of fishy flavor in the butter. However, as the work progressed it became apparent that the acidity, although having a determining influence on fishy flavor, was not the sole cause. With this factor controlled it was impossible to make butter with any certainty that it would become fishy. Frequently butter made from cream with a high acidity showed no trace of this flavor.

It was found that overworking the butter increased the tendency to fishiness, and this flavor could be produced with reasonable certainty by overworking high-acid butter. All butter contains considerable quantities of air, and this is increased by the working, thus producing conditions more favorable to oxidation.

Fishy flavor may be prevented with certainty, says Mr. Rogers, by making butter from pasteurized cream, without ripening. The addition of a starter to pasteurized sweet cream without subsequent ripening improves the flavor of the fresh butter without adding enough acid to cause fishiness. Pasteurization of sour cream will not prevent the development of fishy flavor.

---

Tulare boasts of corn stalks seventeen and a half feet high.

## LIP AND LEG DISEASE OF SHEEP IN WYOMING.

Owing to the presence of an infectious disease known as lip and leg disease or necrobacillosis of sheep, the Secretary of Agriculture has ordered a quarantine, effective August 12, on the counties of Fremont, Natrona, Converse, Weston, Crooks, Sheridan, Johnson, and Big Horn, in the State of Wyoming. Sheep that are affected with this disease will under no conditions be allowed to be moved interstate from the quarantined area. Sheep that have been exposed may be moved for stocking or feeding purposes after one dipping under Government supervision, or they may be shipped interstate for immediate slaughter without dipping, under certain restrictions. Healthy sheep that have not been exposed may be moved interstate from the quarantined area only when accompanied by a certificate of inspection issued by an inspector of the Bureau of Animal Industry.

Lip and leg disease is caused by a germ known as the necrosis bacillus, and is marked by an ulcerative condition of the legs, muzzles, and lips. Other parts may be likewise affected. Sheds, feed lots, corrals, or pastures become infected with the germs, which enter the tissues when the mouth or leg is injured by briars, stubble, rough forage, etc., and set up disease.

Treatment of this disease is very satisfactory if begun in time and applied energetically. It should not be deferred, as better results will be obtained by attacking the outbreak as soon as discovered than can be expected if the disease is permitted to spread among the band or to penetrate deeper into the tissues of the affected parts. One of the first steps to be taken in the treatment is to separate all the sheep that are in any degree diseased from those that are healthy. Large flocks should be dipped in one of the cresol or coal-tar creosote dips permitted by the Department of Agriculture for the official dipping of sheep, the dip being used at a strength one-fourth greater than in dipping sheep for scabies. When only a few animals are to be treated the same solution may be used as a local application.

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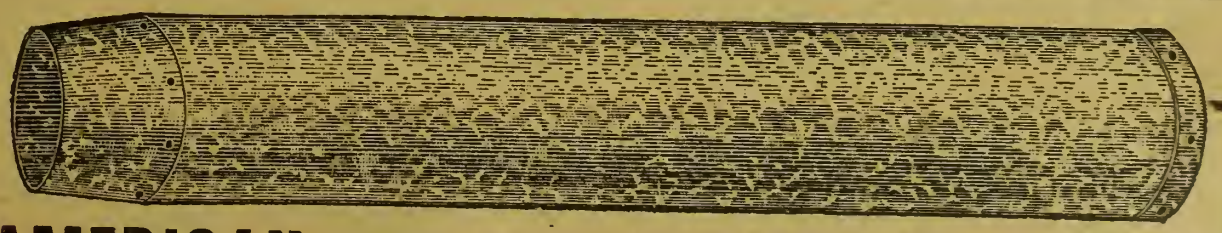

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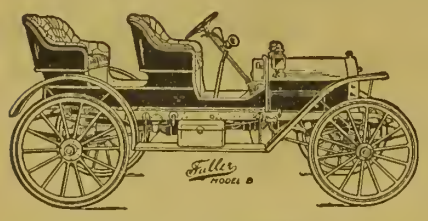

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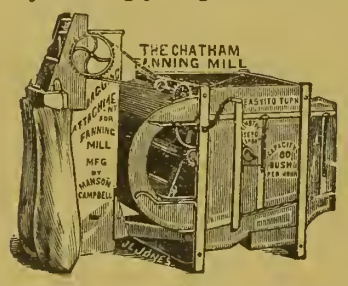


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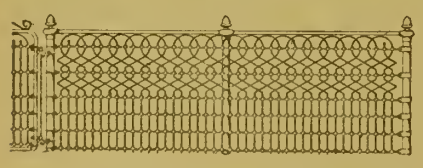

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Prices on hay have weakened somewhat but farmers are still holding for good prices.

# Small Fruits and Vegetables

## GROWING PEANUTS AS A GARDEN CROP

THE peanut thrives only in warm weather yet its season of growth is short enough to permit of maturing a crop in the same length of time needed to grow and ripen ordinary beans, and its requirements in the way of soil and temperature are very much the same as those necessary for the success of beans, so where the latter are a reasonably sure crop, the peanut may also be counted on to do well.

If every one who has a little plot of ground at his disposal could be persuaded to plant a few hills by way of experiment this year, we could safely count on the majority of "experimenters" making peanuts a part of their garden products. Anyone can get both pleasure and profit out of a few bushels grown for home use, and some to give away or sell to friends.

The nuts of commerce have gone through various processes before the roasting and shelling, but they taste no better than those cleaned and prepared for eating by hand, and the pleasure of watching their development from the time of the first tiny pea-like leaves through the different stages of growth till the nuts are ripe, is worth a great deal to the lover of all forms of plant life.

If peanuts are to do well the soil must be of a loose loamy nature, a sandy soil made rich with fertilizers is perhaps the best, but clay soil, if full of humus, will do. The reason for this is that when the bloom of the peanut drops, the ends of the flower stems which are the nucleus of the nut seek to bury themselves in the soil and unless it is soft and loose these stems cannot penetrate the surface and thus they become blighted. So next to having loose soil to begin with, it must be kept in that state by frequent cultivation until after the blooming period is past.

Whether growing peanuts as a field or garden crop a liberal application of air slaked lime or of land plaster should be given, and a commercial fertilizer containing 8 per cent potash and 8 per cent phosphoric acid should be applied at the rate of 600 to 700 lbs. per acre, or broadcast before seeding 350 lbs. acid phosphate and 300 to 350 lbs. sulphate or muriate of potash. No nitrates are needed, as the peanut, like all leguminous plants, can get all the nitrogen it needs from the air.

Peanuts should not be planted till the ground is warm and all danger of frost is over. The ground should be plowed and well fined, and if intended for horse cultivation rows should be made as far apart as for corn, and the seed planted from one to two inches deep, about eighteen inches apart in the row, two nuts to a hill. If planted in the garden the rows may be far enough apart to walk between when hoeing. The seed had best have the shells removed but care must be taken not to break the thin brown skin covering the nut. Plant raw peanuts, of course.

Some growers plant without shelling, and the writer has tried both with little difference if any in results, and would prefer planting the unhulled seed, to trusting the shelling to careless hands.

When the nuts are ripe the vines may be pulled and dried with the nuts adhering. After curing, the nuts, nuts may be stripped off by hand and for home use are ready to roast and eat, while the dry vines may be fed to the cows and horses.

There are several varieties of the peanut, but for the individual who grows only an experimental patch any variety will fill the bill. The bunch varieties are more easily cultivated and may be planted closer together than the running varieties. The Spanish peanut is one of the best of the bunch sorts, the nuts being very sweet, though small, while the Jumbo is a good kind, when the branching variety is chosen.—Successful Farming.

## PRUNING STRAWBERRIES.

Careful experiments have shown that vigorous fruit buds will not form in the dark. A large isolated plant drops its leaves out in all directions so the sun can shine on the crown or center, and the buds on such plants are very much more stocky and perfect than on those which are crowded so thickly together that their own foliage is closed in, or if the leaves of other plants fall over the crowns and shut out the light.

The great mistake growers make is to allow runners to form and make foliage in abundance, and then cut it all off at once. This destroys the balance between roots and foliage, so that the plant is thrown into a congested condition that induces rust and other fungi which always attack weakened roots. The runners should be pruned off before leaves begin to form and then the growth proceeds in the new crown naturally and leaf and root are equal.

My favorite way of growing fine fruit, of what people call medium sized varieties is in the hedge row, that is, one plant wide and as close as the foliage will admit. Prune off the runners as soon as they appear by attaching a rolling cutter to the cultivator, and thus do the double work with the same labor.

Those varieties designated as extra large I should grow strictly in hills provided always that the ground was very rich to cause them to stool up largely.

On poor soil I should let some runners form, but would never let any strawberry go without close pruning. —Western Rural.

If you have not done so already, give your lawn and plants a good feed, a brand of good commercial fertilizer which is always free from weed seeds for the lawn, and which for this reason alone is vastly less expensive in the end than dairy or stable manure. For trees, shrubs and flowers in the garden both kinds are necessary for the best success. If one-half the water were used and two or three times more fertilizer than is generally applied to lawns and gardens, the cost of maintenance of both would be little, if any, more than is the case by the methods now generally practiced, and the results infinitely more satisfactory.—Pacific Garden.

See if there is not a profitable local market for some of the fruit and vegetables you are raising in the home garden.


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In large or small quantities, 33 kinds to select from. Write for free pamphlet "Eucalyptus Culture." It gives full directions for sowing the seed, raising the plants and planting out into the field, together with descriptions of all the leading species, giving their uses and the localities to which they are adapted. Sample packets 15c each, 2 for 25c, 4 for 50c, 9 for $1.00. Choice Flower, Garden, Tree and Palm Seeds, Roses, Flowering Plants etc. Catalogue mailed free upon application.

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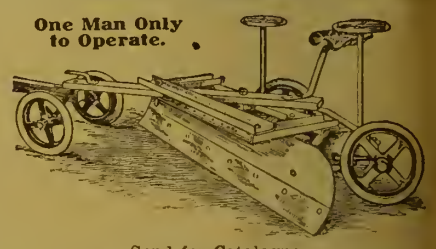

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Better and cheaper than wood.
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**EUCALYPTUS**
**TREES AND SEED**
**SUNSET HORTICULTURAL COMPANY**
**Inglewood, California**

# The Ornamental Garden

### SPADING FOR FLOWER BEDS.

FOR flower beds or borders and for early vegetable beds, the best means of breaking the soil is with the spade, says a writer in the Journal of Agriculture. The good gardener must thoroughly understand garden tools. He must he an artist in the use of the hoe, rake and spade. And we might add here that there is more honor and profit—not counting personal pleasure—in being ahle to effectively handle these tools than in accomplishments popularly considered of higher worth. The good gardener becomes a true artist, producing new forms of heauty and harmony equal to those of the painter, sculptor or musician. The landscape gardener hecomes an artist of the highest school and he who beautifully and harmonlously decorates the home grounds and exterior surroundings of the home is a great a benefactor to his race as he who creates interior decorations.

Spade the soil deeply. As you spade work into it manure or other fertilizers that have been placed on the surface. Thrust the spade into the soil the full depth of the spade-blade, lifting and turning the soil in the same operation. Work each spadeful of soil with the spade to a fine consistency as soon as it is turned. Leave no large lumps below, but make all fine and of even texture.

If the land is somewhat poor or if the suhsoil is stiff and heavy, it is a good plan to shovel out a trench from one to two feet deep. fill in the hottom with stable manure, old shoes and hones, wood and coal ashes and a variety of organic refuse. Shovel upon these the last and poorest soil that was taken out of the trench, to the depth of three or four inches. Upon this place a layer of finer and more decomposed manure, then completely refill the trench. This will make a plant bed in which flowers or vegetables can find abundant food for large development and it will remain fertile for many years.

After the hed has heen spaded and worked down with the spade as the lifting and turning were done, apply the rake. Use a heavy steel-toothed rake that will dig down and pulverize the soll. The object in working down the soil is to make it fine and firm. If the soll is very dry, walk on it as the raking is helng done, making the weight of your body compact the soil. The compacting brings all of the soil particles into close contact for establishing free upward capillary movement of soil moisture. Also, in fine, compacted soil seeds will germinate and roots grow hetter than in loose soil where there is poor moisture cantact. Allowing a freshly spaded hed to settle for a few days hefore planting is often a good thing. If a rain intervenes, so much the hetter.

---

One can greatly increase his numher of plants of heliotropes, carnations, pinks, etc., hy pegging the shoots to the ground and covering lightly with earth, leaving them attached to the main stem until they take root, which takes hut a short time, after which they may he removed to bloom elsewhere if desired.

Old tin cans can be made of great service in setting out flower bulbs. Punch a few nail holes in the hottom, and hury one in the ground hy each bulb. In watering them fill the cans with water, and it will gradually soak through to the roots, where it is most needed, keeping them constantly moist.

Among the Pines.

---

It is asserted that no attempts toward grafting plants on others which do not belong to the same natural order have been successful. Generally speaking, varieties succeed best on varieties, species on species, or species and varieties on allied genera. The fine double camellias will not grow from cuttings, but are propagated by grafting upon the single kinds which readily do so. Many evergreens may be grafted in the ordinary way, hut the pines only succeed with herbaceous grafting.

---

In spraying for insect pests remember that you have two kinds of insects to combat; those that chew their food and those that suck up the juices of the plant. The former may be reached with the poison that they will consume in eating the foliage; the latter must he treated with a spray that reaches the insect, closes its pores and stops its breathing, or destroys the tissues of the insect.

---

Keep the orchard trees headed low. By so doing there will be less sun scald. More trees per acre. Fruit is more easily picked, sprayed and thinned.

**Imported Bermuda Onion Seed**

Our Bermuda onion seed is the finest Teneriffe grown stock gathered from select large bulbs. We import it ourselves, direct from the Canary Islands, and we thoroughly test it for perfect germination before we offer it to our trade. If you intend to grow onions this season, it will pay you to buy your seed from us and get the advantage of our direct importing and scientific testing. We have an import shipment due here August 20th. Orders should be placed now.

White Bermuda Seed, oz. 25c; ¼ lb. 75c; lb. $2.50.
Red Bermuda Seed, oz. 25c; ¼ lb. 75c; lb. $2.25.
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**Winningstadt Cabbage Seed**

For August and September sowing the Winningstadt Cabbage is unquestionably superior to all other varieties. The hearts are firm, full size and of very fine delicate flavor. The crop comes in for cutting very early in the spring. Our seed is all French grown and we carefully test it for fertility.

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Our trees are grown by Prof. D. C. Burson, a noted forester of forty years' experience, which insures the best possible product. Seedlings are inured to all weather conditions and are strong and vigorous trees 10 to 12 inches in height.

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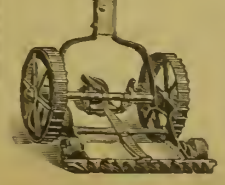

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ESTABLISHED 1889

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Thursday, August 19, 1909

Address All Communications to

CULTIVATOR PUBLISHING CO.

115½ No. Broadway, Los Angeles.

733 Merchants' Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY

H. A. PERKINS, EDITOR AND GEN. MGR.

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RALPH E. SMITH - - - Plant Pathology
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MRS. FRANK METCALF - - - Poultry

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.


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## BURBANK CRITICISM.

The adulation which has for the past few years been bestowed upon Luther Burbank, seems to have reached its climax, and direct abuse is being heaped upon the head of the "wizard." And the abuse seems to be going to as great an extreme as the flattery. Perhaps the most severe of these criticisms has come from the Pasadena Gardeners Association which passed resolutions condemning some methods which have been employed in the disposal of the Burbank products. These were unanimously passed after listening to the report of Mr. Barnhart, a member who had visited and held a long interview with Mr. Burbank.

Possibly this is deserved, but we do not believe any material good can be had by such resolutions. The Cultivator has never been among the hysterical in proclaiming the greatness of the work accomplished by Mr. Burbank, because it has believed that only years of trial could bring judgment and award proper praise. Many of his introductions and products have been placed upon the market before their worth could be tested, and buyers of course feel much bitterness when they think of the long price paid and the short value obtained. If any criticism is due Mr. Burbank, we think it is along this line, but as to taking from him merit due, the judgment of this generation can have little influence.

Beyond all contention Mr. Burbank has produced some things of value. We may refer to the potato which he produced in his youth. True, this was not done as the result of definite work in hybridizing or selection, but more through accidental production from a potato ball picked up by the boy and cared for. He must be given credit for doing the simple thing in a simple way and bringing to perfection the potato which has made millions for the producers of the country especially those of the Pacific Coast. In the flower line, his Shasta daisy has proved its worth, and has gained such a hold on gardeners as no other recently introduced flower. Regarding this "creation" it must be admitted however, that German florists catalagued almost the same flower more than a score of years ago.

Among more recent efforts, though not yet fully tested, we might mention the Formosa plum. We believe this has a great future and will bring enough glory for one man.

True, when one sees the statement, which it is asserted Mr. Burbank made, that his work is of more importance than that of all the United States experiment stations, or that, "Luther Burbank has introduced a rhubarb which he flavors at will with strawberry or raspberry," which he quotes with apparent approval over his own name, it must be confessed that one hesitates as to whether it is proper to simply grin or to retire with a sick stomach. But:

It seems to the Cultivator that the unfortunate feature of the whole Burbank mania lies in ignoring merit in many others equally as worthy or possibly more so. If the Pasadena gardeners will take up the investigation of these meritorious efforts and place the laurel where it belongs, it will lead to more recognition of good work. For instance, an old veteran in the work, Dr. F. Franceschi of Santa Barbara has brought to this state plants from all parts of the world which have wonderfully enriched it, we believe to as great an extent as any man, even including Burbank.

George Roeding of Fresno deserves credit for putting fig culture on a commercial basis which it would not have occupied had not his energy been thrown into the work. Garey gave us the Eureka Lemon, Sexton the softshell walnut, while T. A. Hatch and the late Felix Gillette labored long in the almond industry. The late John Rock should surely be remembered as a great factor in our state horticultural history. The late A. J. McClatchie's name is worthy of enrollment as a reminder of one who possibly more than any other, made known the real merit and commercial possibility of the Eucalyptus.

These names make only a start on the list which might well grace a roll of honor. The columns of the Cultivator will be a desirable place for establishing such a roll.

## A GOOD WORK.

Without question the wealth of this country has been vastly increased by the work of the Department of Agriculture. The large appropriations made for it sometimes almost stagger people who do not know the work being done, but to those who have watched closely in the last few years, it is apparent that Congress is none too liberal with the funds of the nation. To California has been furnished one of the most striking examples of this benefit, perhaps because of the condition here which has been brought about by the most perfect system of co-operative fruit marketing in the world.

While passing through California recently, G. Harold Powell, in charge of the field investigations of the Bureau of Plant Industry, called at the Cultivator office, and in the course of conversation remarked that the experiments in citrus shipping and citrus decay owe a great part of their success to the co-operation of the great citrus organization with the workers of his department. We had supposed that the investigations of conditions affecting eastern apple shipments and the possibility of securing a more marketable apple for the export trade, had been more successful or had attracted more widespread notice than the western work, but Mr. Powell stated that the Department had been unable to secure there the large co-operation which had been given so readily in California. Here not only large numbers of the individual shippers are willing to aid his work, but he finds in the citrus fruit exchange complete co-operation in a large way, to the extent of supplying him with one car, or a hundred cars if necessary, to treat as he sees fit. This is true at the western end; and he is even allowed a certain control over the cars to their destination.

This is a sample of one of the benefits of co-operation which is usually lost sight of. The outside shipper looks at the season's returns and compares his own with those of a member of the exchange, and sometimes feels a sense of exultation that his own unaided shrewd marketing has accomplished for him as much as has been done by the exchange. But credit should be given to the organization which has saved the industry by just such co-operative movements as Mr. Powell mentions.

It is fortunate these two factors, the Department and the Exchange were brought together to the advancement of the citrus industry.

## FARMERS INSTITUTES.

Mr. J. B. Neff announces additional farmers institutes: Elsinore, August 30, 31; Orange, September 1, 2; Fullerton, September 3, 4; Highlands, September 13, 14; Redlands, September 15, 16; Rialto, September 17, 18.

## MORNING GLORY.

(Continued from Page 171.)

We have had correspondence with many agriculturists in California on the subject, and recently sent a letter to the Department at Washington for further information. This was referred to Mr. H. R. Cox, Scientific Assistant of the Bureau of Plant Industry, who writes us as follows:

**H. R. Cox, Scientific Assistant Bureau of Plant Industry.**

In regard to the control of this weed by the use of spray solutions, several experiment stations have conducted trials along these lines without satisfactory results. The chemicals used in these experiments were, for the most part, iron sulphate, arsenate of soda and common salt. The tops of the weed are killed by these sprays but the underground parts send up new tops at once, so great is the vitality of this pest. After spraying thoroughly for two years at intervals of a week or ten days, the Kansas Experiment Station still found the wild morning glory making considerable growth, which, if left without further attention, would soon have become as bad as ever.

Three successful methods have been employed in the eradication of this weed. One of them is clean cultivation. Many farmers are prejudiced against trying to get rid of the wild morning glory by this means. Very often the plan has not been given a thorough trial. There are few cases in which a patch of this weed cannot be eradicated by thorough cultivation for a year, or, at most, two years. It requires going over the land about once a week during the entire growing season. It is an important matter to use proper implements in this work. Those of the weed knife pattern which cut off the stems below the surface are usually more effective than the implements that have teeth or shovels.

A second plan that has been found successful, especially in the East, is alfalfa hay growing. When a thick vigorous stand of alfalfa has been secured the frequent cutting and the smothering effect of this crop often greatly reduces or entirely eradicates the morning glory in a few years.

The third method is hog pasturing. Hogs are very fond of the underground parts of this weed which taste much like the sweet potato. If, therefore, they are turned on a field of it without having their noses rung or slit they will root the morning glory vigorously, especially if they do not receive much other feed. They can be turned either on a regular grass pasture or the land can be plowed and the hogs then turned in. The latter way probably brings quicker results and is more applicable in California.

Every man must choose a method that is best suited to his conditions. In many cases clean cultivation is the only one that can be followed, but where the other plans can be employed, they are apt to prove effective in the control of this weed. Many farmers are looking for some quick means of eradication that requires very little work. It must be understood that such a serious pest as the wild morning glory necessitates heroic treatment.—H. R. Cox, Washington, D. C.

# Agricultural Notes of the Pacific Coast

## Northern California

Hop picking will begin about August 20 to 25.

Modoc county predicts an immense crop of grain and alfalfa.

Twenty-one cents is now being offered for Sacramento Valley hops.

Table grapes are now being shipped rapidly, but few are being dried as yet.

Ukiah has been sending forward some exceptionally fine Bartlett pears this season.

The big plant introduction garden at Chico will experiment with various citrus fruits.

A mass meeting of the Santa Rosa Viticultural District was held in that city last Saturday.

Yolo County Stock Breeders are making extensive exhibits of their cattle at many fairs this fall.

An engineer of the United States Geological Survey is arranging to study the drainage situation of Northern California.

The Sutter County Farmer says that the crops along the river in southwest Sutter never looked better than this year.

The biggest shipment yet made of deciduous fruits from Newcastle was made this month when thirty-five carloads left town in one day.

Prof. M. E. Jaffa of the State University is investigating through a series of experiments as to the benefits of various feeds for poultry.

Shasta county's pear crop will reach the 300 carload mark which will be the bumper for that county. They will bring growers about $35 per ton.

Farmers at Biggs are securing large storage facilities for their hay until prices are more satisfactory. One warehouse has a capacity of 3500 tons.

The manager of the canneries at Yuba City has invented a canning machine which works automatically and makes the process much more economical.

Over a mile of levee is to be constructed at Shanghai Bend near Yuba City. It is estimated that 80,000 cubic yards of earth will be required for the improvement.

The Diamond Match Co. is building a spur railway which will open up an immense timber supply where it is estimated eight hundred million feet of lumber will be secured.

Reclamation District Number 777 in Sutter county entered suit against certain farmers for collection of assessments which had been refused, and the decision was in its favor.

One firm at Santa Rosa has bought a hundred thousand pounds of hops at twenty cents per pound at the ranch. The same company has offered twenty-one cents for a few small lots of exceptional quality.

More attention is being given to irrigation schemes in western Placer county than heretofore. An effort will be made to establish an irrigation district from Newcastle to the extreme Placer county line.

The city of Vallejo is taking up with one of the first experiments of its kind, in this, that it will plant a large number of eucalyptus trees on 500 acres of waste land near the site of the municipal water works.

## Central California

Hanford is engaged in sending watermelon thieves to jail.

Armona has a large force packing peaches in twenty pound boxes.

Kerman boasts of June sown alfalfa which is doing remarkably well.

Pajaro Valley orchardists are giving a late spraying for the codling moth.

Watsonville has already begun shipping of some of her early Gravensteins.

The Tulare County Fair hopes to have an exhibit from the experiment station.

Some rich land near Tulare is bearing a fine lot of corn this year without irrigation.

The Kings County Raisin and Fruit Co. is building a fine fruit and raisin house at Armona.

Tulare claims that it has the largest co-operative creamery association in the United States.

The California Co-operator is the name of a new paper which is the organ of the California farmers union.

The gathering and drying of Muir peaches is in full blast throughout Kings county and a large crop is reported.

Investigation of the various dairies about San Jose shows the nineteen principal dairies to be in exceptionally good condition.

Wine grape growers are impatient over the fact that the California Grape Growers Association refrains from naming any price for this year's purchases.

The farmers union at Kerman is doing some vigorous work in getting farmers in the surrounding country together in the Kerman Co-operative Creamery.

A co-operative dairymen's association at Dos Palos issues a statement showing that prices paid to producers of that section for 1909 are better than for 1908.

A distribution of twenty-five per cent of the money involved in the old Raisin Growers Association to the total of $76,750 has been ordered. The total distribution ultimately will be about $307,000.

The members of the referee board appointed by President Roosevelt did some of their first work in this state at San Jose in studying methods of fruit drying and sulphuring, making trips through various packing houses.

A Clovis fruit company has sold its wine grapes consisting of about 7000 tons, to the California Wine Co. with the understanding that the price paid is to be as high as that paid by any other concern. The grapes will be delivered at Madera.

William H. Saylor has resigned as secretary of the State Dairy Bureau and has been succeeded by F. W. Andreason, formerly of Humboldt county. Mr. Saylor will remain in the position of chemist which he has heretofore held in connection with his office of secretary. The three inspectors who have been with the board in the past will remain. They are J. L. Starr of Los Angeles, J. H. Severin of Oakland, and W. H. Perrot of Humboldt county.

## Southern California

Coachella Valley is producing some of the finest Bermuda onion seed.

Santa Ana now boasts one of the most complete sanitary dairy barns in California.

Coachella Valley proposes to plant enough egg plant so that during next winter it can ship a carload a day.

The shipments of horticultural products from Fullerton are vastly in excess this year over those of last.

Agricultural District Number 16 will hold its annual fair at Arroyo Grande the week beginning September 20th.

Irrigation Expert Rockwell, of the government service is in Southern California investigating irrigation conditions.

The Farmers Union in the Imperial Valley is securing large additions to its membership and many locals have been formed.

The orange packing season at Highland closed a record of 119,000 boxes of fruit from the Highland Growers Association.

The Angeles Forest Reserve is to be inspected with the idea of determining as to number and variety of forest trees required.

It is reported that Southern California will see a bigger planting of eucalyptus trees this year than last which was the greatest ever.

Orange County bean growers recently held a meeting at Santa Ana to discuss uniting with the Ventura Lima Bean Growers Association.

A grass fire recently swept over a portion of Menifee, Riverside county, destroying a harvester and a stack of grain, besides doing much other damage.

The fruit growers at Rialto are asking the board of supervisors of San Bernardino county for the organization of a new fruit inspection district.

The Imperial Valley cantaloupe season closed much more satisfactorily than last year, and about a dollar a crate is being realized by the producers.

Riverside county supervisors have introduced an ordinance which, if passed, will compell everyone engaged in the fumigation of trees to take out a license.

The Palo Verde country in Riverside county, is harvesting an immense crop of grain this year, being the first large crop that section has ever harvested.

From the larger apricot sections of Ventura county, it is reported that the apricot output will be smaller than was reported early in the season. The fruit, however, is of exceptional quality.

The decree of the court by which the California Development Co. was instructed to pay to the Liverpool Salt Co .$456,000 because of the submergence and destruction of its works, has been reversed.

At the annual meeting of the Highland Orange Growers Association, the following were elected directors for the coming year: G. M. Rose, G. W. Loring, Thomas Hooker, J. W. McCabe, Jr., Dr. E. J. Rohrer (Secretary), E. J. Yokam (Vice-President), Alexis E. Frye (President).

## The Coast

Some great exhibits of apples are being made at the A-Y-P Exposition.

Dry farming is being largely extended in the vicinity of Prescott, Arizona.

Clover is proving remarkably successful in the region of Palouse, Wasington.

Ranchers in Umatilla county, Ore., are receiving as high as $12 per ton for alfalfa.

A stock show will be held at McMinnville, Oregon, September 24th, to October 1st.

A township high school near Lewiston, Idaho, is planning for an agricultural course.

It is estimated that one-third of Benton County, Washington, is now under irrigation.

Hawaii is irrigating sugar cane on a greater scale than any other section in the world.

The Fair Association of Arizona is about to buy fair grounds at an expenditure of $30,000

A rancher near Yuma reports a bunch of Thompson Seedless grapes weighing five pounds.

The University of Arizona is offering a short course in agriculture which will begin September 20th.

Cattlemen of Washington and Oregon feel very bitter regarding the free hide feature of the tariff law.

Time for making entries in the live stock exhibit at the A-Y-P Exposition has been extended to August 20th.

Ranchers near Phoenix are concerned over the appearance of the grasshopper pest in the alfalfa section.

One farmer at Davenport, Washington, has just sold his crop of 25,000 bushels of wheat for 93 cents a bushel.

Lewiston, Idaho, is marketing an immense crop of cantaloupes. The total shipment will be about 40 cars from that section.

Smut fires have already begun in Washington, Colfax reporting a big fire with destruction of machine and entire field of grain.

Hawaiian sugar planters are experimenting largely in the stripping of sugar cane, but so far results are favorable to the non-stripping.

Stockmen have recently leased 100,000 acres in the upper Clear Lake country in northern Idaho, which will be used for grazing purposes.

The Colorado River has encroached upon Yuma to the extent of washing out 110 town lots and moving several hundred thousand tons of sand.

The receipt at Seattle of a thousand bags of corn from the orient is one of the strangest imports which have come to the Pacific Coast for some time.

The government of Mexico is constructing buildings on a large ranch near the city of Oaxaca which will be the nucleus of a large agricultural experiment station.

Hawaiian canneries which have heretofore devoted their efforts almost exclusively to the canning of pineapples, are now investigating as to canning guava jelly and paste and other fruits so as to run the year around.

## For Eggs Next Fall Feed Now

# West Coast Egg Food

Don't make the common mistake of supposing that you can let the fowls get all run down before or during molting and then bring them up by heavy feeding later. You won't get eggs that way. They must be kept in good condition and fed feather producing and egg making food. We know how to make rightly balanced rations for such purposes. That is our business, and we have the best equipped mill for doing it, or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg Food, as good as anybody can make, by using

# EGG MORE

and you will get no unsound grain, no mill refuse and such stuffs, as are in many concoctions called Egg Food. Egg-More is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs if you feed it just a little each day. 25 lb. sack, $1.90; 50 lbs., $3.60; 100 lbs., $7.00. If not kept by your dealer we will prepay freight within 300 miles.

## West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

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## FOR MOULTING HENS

**Feed**

# MIDLAND

## Poultry Food No. 4

***$1.95 per Sack***

Midland moulting food is a balanced ration for the moulting hen and is absolutely the best food to feed for eggs and feathers. By feeding No. 4 now you bring your flock through the moult in good condition, which insures eggs when the market is high.

***Petaluma Incubators and Brooders***

Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

Send for our Illustrated Catalogue.

## Petaluma Incubator Company

**Petaluma, California**

Our General Agents for Incubators and Brooders and Midland Poultry Food:

**Petaluma Incubator Co., Petaluma, Cal.**
**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**
**Berrar & Robertson, San Jose, Cal.**


Plant all the sunflower you have room for—the seed heads are fine for moulting hens.

A mating can be continued for seven or eight years without a change.

# Profit in the Poultry Yard

By Mrs. Frank Metcalf

**We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.**

### FALL CHICKS.

EVERY one should raise at least a few broods of fall chicks in California. They will come into laying in February and March, and the cockerels make fine broilers at holiday time.

The main thing to guard against at this time of year, is lice and mites, which are a little more troublesome than earlier. Plenty of garden stuff can be obtained to give chicks green food in abundance. The late hatched chicks seem naturally to feather out early, and how they do grow!

In setting hens at this time of year, especial care should be taken that the nests are free from vermin of all kinds, and well shaded from the hot sun. Plenty of fresh drinking water must be provided during their confinement, and their food should be wheat and a little cracked corn. The chicks may be left for the hen to raise, providing safe coops in which they will be protected from night prowlers are furnished, or they may be taken from the hen and raised in a brooder, fireless or otherwise.

Feed the little chicks good clean chick food for the first few days, with coarse sand in the floors of their coop, and a water cup in which they cannot drown.

My favorite way of watering small chicks is a whiskey glass with heavy bottom, which they cannot well upset, and which is high enough for them to reach with their bills only. Or a good way is to take a pound baking powder can, punch a hole with a nail in one side near the top, and fill with water, then reverse over a small pan or saucer. This may be set up on a board so they cannot scratch dirt into it, or placed directly upon the ground as one wishes. They very quickly learn to upset these arrangements, I find, unless they are up on something, and even then, the lively chicks soon learn to tip them over. A tin cup with a stone in it makes a good drinking cup as soon as they are large enough not to drown in it. Whatever is used, must be kept sweet and clean, and the water renewed very often so as to be perfectly fresh.

If incubators are used, the danger of vermin is, of course, lessened, but unless a hygrometer is used, trouble about moisture is likely to spoil the hatch. As these useful appliances can be purchased and used in any machine, now would be an excellent time to try one.

By either method, hens or incubators, a few chicks hatched now will prove a good investment, and we won't be sorry we have them by and by.—Mrs. Frank Metcalf.

### POULTRY QUERIES.

**Chicks Dying.**

I have had severe losses among my young chickens this spring, for which I cannot find a satisfactory reason. In one lot I set 600 eggs in incubator and hatched 406 chicks. They began to die when a couple of weeks old and in spite of all I could do, they all died but three dozen. I use indoor brooders( positively free of headlice or body lice or mites) in a brooder house with cement floor and runs 3x24 feet, coffee hulls from 1 to 2 inches deep to scratch in, plenty of sand and grit and clean water daily, also granulated charcoal in hopper and feed Midland number 2 in hoppers always accessible, and a regular small grain chick feed, given in scratching material four times daily. Their appetites always ravenous and yet they grew very slowly and every afternoon a dozen or two would become too weak to move around and in a few hours die.

They did not have "white diarrhoea," but their droppings seemed to be covered or surrounded by water, yet the dropping itself seemed fairly firm. Their livers were sometimes spotted (yellow) others very dark and bloody and their galls frequently filled with arterial blood, and sometimes amber colored; sometimes apparently overflowed and staining intestines; their bodies nothing but skin and bones. Is it possible that my breeding stock is the cause of this? Or is there something wrong in my care? A reply to the above will be greatly appreciated by yours truly.—W. C. D., San Jose.

I would like to know what system of brooders was used in this case, for although the symptoms and post mortem almost seem to declare liver complaint there may be something in the method of heating which caused the primary weakening of this promising lot of chicks. The good hatch rather indicates that the breeding stock is in fair condition, so I would not lay the blame there from the report, which, while complete in most respects, leaves one in the dark as to others.

Now, the only way to have the heat regulated in a brooder, is by automatic valves, which means a larger expense than many care to invest in the chicken business, therefore the heating of most brooders is very defective, and while the chicks may seem very warm and comfortable at night after the whole house has been warmed by the sun all day, along towards morning they chill and crowd, thus weakening their vitality and ruining their digestions. Again, they may be too warm in their brooders all night, and the fresh cool mornings which are so invigorating to us, chill them and cause a weakened condition. Unless one has a very good system of heating, it is best to go out to the brooders along towards morning, say at 2 o'clock and see how they are doing. If they are comfortable and spread out like a flock of little sheep on the floors of their brooders, it is safe to say they are all right, but if they become restless, and are either too hot or too cold, a few nights' attention will convince one where the trouble is, and means may be taken to improve conditions.

A brooder should be so constructed that a chick may be at a temperature of 100 degrees if it wants it, or free to move a little farther away from the source of heat at will, yet never be so it can get entirely away from the warm atmosphere necessary to a good night's rest. Under a hen the chick is just as warm as during incubation but has the privilege of putting its head out into the fresh air if it cares to,

# SEEDS

## Poultry Supplies

The best that grow. Send for Catalogue and Price List.

**West Coast Seed Co**
**115 W. 7th St.**
**Los Angeles, Cal.**

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**Coulson's**
POULTRY FOODS

**Growing Chick ...Food...**

Can be fed damp as a mash or dry in hoppers. Feed it to your chicks up to 3 months old. Gives rapid growth and health.

It will save your grain bill, and you cannot afford to be without it.

For free samples and prices apply to

**Coulson Poultry & Stock Food Co.**

**Petaluma :: California**

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**CROLEY'S**
**High Protein Meat Scrap**

Just what the name implies.

**A Meat Scrap High in Protein**

Not tanned nor embalmed and thoroughly digestible.

Manufactured by

**Geo. H. Croley**
Poultry Supplies
631-637 Brannan St. San Francisco. Cal.
Obtain it from your dealer, or order direct.

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**No Flies at MILKING TIME!**

Don't blame the cow for switching her tail so furiously. Don't throw the milk-stool at her because she "side-steps" and upsets milk pail. The critter can't help it when flies are constantly prodding her hide for warm red blood.

**Conkey's Fly Knocker Knocks Flies**

Spray your cows with Conkey's Fly knocker and the flies won't come near. It drives them away. The greatest discovery of the age. Sold under a positive guarantee. Prices—qt. 35c; ½ gal. 60c; gal. $1. Agents wanted everywhere. Write today.

PACIFIC COAST AGENTS
Germain Seed Co., Los Angeles; Coulson Poultry & Stock Food Co., Petaluma; Pacific Seed Co., Portland; Seattle Seed Co., Seattle; Poole's Seed Store, Tacoma; Church Seed Co., Spokane.
THE C. E. CONKEY CO.
Dept. F3 CLEVELAND, OHIO

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# GEESE

**Toulouse Embden**

Prize winning stock never beaten at any poultry show.

***$1.50 Per Setting***

Fine Toulouse Ganders for sale at $4.00 each.

Send your order at once for the best stock in the west.

**T. B. C. Sielcken**
CALISTOGA, CAL.

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**$550** will buy the best ***88-NOTE*** Player on the market. Crown & Concord Pianos. 10-in. Disc Records 25c.
**PETER BACIGALUPI & SONS, Phonographs & Pianos**
**941 Market Street, . . . San Francisco**


but few of them do at night in California, and especially along towards morning. So our brooders must keep them warm enough, yet not overheat them, a very difficult question where the temperature ranges 50 degrees from night to morning.

I believe more chicks are lost from being cold at night than many suppose and there is certainly danger of overheating, also. So, I repeat the only way to be sure they are comfortable, is to get up every night and see for one's self how they are acting.

Now for the liver trouble which was surely present: The watery condition of the droppings indicates congestion of the liver, which the post-mortem confirmed. Any trouble which obstructs the circulation of the blood will congest the liver, cold, over-heating and subsequent chilling, or an excess of starchy matter in the food. A teaspoon of castor oil to each four chicks, (a month old, decreasing the quantity according to age), should be mixed into an appetizing mash of some kind and administered at the first symptom, which is a watery discharge, usually. Then give them all the finely cut clover you can get them to eat, and feed green cut bone or fresh meat rather than so much dry mash, with cracked wheat for a month. My own favorite corrective is raw eggs mixed with wheat bran once a day, with all the finely ground eggs shells I can find to mix in. Also chopped onion with the clover, but no white wheat bread or flour mashes, which are too starchy for the little patients. Instead of the coffee hulls, I should try to get the waste from a haymow or feed market, as this contains many seeds and particles that are relished by the chicks, but not from a barley haymow, by any means. The waste from alfalfa is the best.

There are some breeds of fowls that are much more apt to over-eat than others, Barred Rocks being usually the greatest eaters, and most prone to liver trouble in consequence.

Better to feed "little and often," rather than let them gorge themselves if they are so inclined, but thousands of chicks are raised successfully with a hopper of feed in reach at all times, and one feels so much freer in mind, if one knows the little fellows are in no danger of starving if one is delayed by other duties.

Some chick foods contain a large percentage of oatmeal, which I have found dangerous to young chicks, causing bowel trouble and irritation of the alimenary canal. Many people will not use a food containing a particle of oat meal, if they know it.—Mrs. Frank Metcalf.

### AN OHIO ROOSTER LAYS EGGS.

Petaluma incubators have started to revolutionize the poultry business in the East, judging from the published report from one of its customers in Eaton, Preble Co., Ohio, on March 24th, 1909.

That farmer living northeast of Eaton hatched a fowl. It to all appearances is a rooster of Black Minorca species. In the past three weeks this rooster has layed eleven eggs. The eggs have been exhibited over the community and they are very odd, there being no two of them of the same shape or size. One looks to be at miniature ten-pin; another is the shape of half a moon; one like a stuffed sausage, and still another looks like a greatly enlarged capsule.

The fowl is healthful and the occurrance has produced a great deal of merriment, none believing the story until the goods were produced. None of the eggs contain a yolk.


# DIP YOUR HENS

**When? - - - - - - Now**

Molting time is the best time in the entire year to dip your fowls.

Kill all the lice and vermin and let Biddy start in the new year in a good healthy condition in her new coat.

**In What? -- Creolium**

CREOLIUM is a coal tar preparation and and is the greatest germ destroyer and disinfectant known to the poultryman of the present day.

It is Anti-Toxin and Non-Poisonous.

The PACIFIC POULTRY COMPANY has used CREOLIUM and nothing else for years as a spray for the houses and a dip for the fowls, to keep their thousands of birds clean and healthy. What more testimonial or guarantee could you ask?

It is not expensive for in nearly every instance it is diluted to one part CREOLIUM to 50 parts water, sometimes even more.

It is an indispensable remedy for the stable and among the cattle.

PRICES AS FOLLOWS:

Quarts, $1.00 Gallons $2.50
½ Gallon, $1.50 5 Gallons $12.00
Special rates on large quantities.
Mail orders filled promptly, if money accompanies order.

**The Pacific Poultry Co.**

**are sole agents in Los Angeles County for this product, and it is for sale at their plant in Inglewood, also at their Los Angeles Office, 416 Chamber of Commerce Bldg.**

Write for literature.

---

**Have You Tried**

**Coulson's**

# No 3 Condition Powders for Poultry?

A first-class tonic and conditioner like ***Coulson's No. 3 Condition Powder*** is of great benefit to the chickens, especially when used at this time of year.

***Coulson's No. 3 Condition Powders*** will prevent diseases, by keeping the flock in a thoroughly healthy condition. By the same means it will keep them laying longer into the molt, and their healthy condition will enable them to molt quickly and commence laying at an early date. As it contains no injurious stimulant, it can be used with perfect safety at all times and for this reason is fed in large quantities by numerous poultrymen.

**It Contains No Cheap Filler**

In buying a bucket or sack, therefore, every pound is of value to the chickens, and will give you large returns for the money invested.

For sale by all dealers or at factory.

**Coulson Poultry & Stock Food Co.**

**Petaluma, California**

**Germain Seed Co., Los Angeles, Distributing Agents for So. California**

**Testimonial**

Coulson Co., Petaluma, Cal. Petaluma, Cal., July 21, 1908.
Gentlemen—I consider your ***No. 3 Condition Powders*** an excellent tonic to put laying hens in good condition. H. A. GEORGE.

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**MRS. C. D. HUBBARD'S** WHITE WYANDOTTES
Eggs for hatching September 1st '09. Write for circular.
BOX 60, ROUTE NO. 1 SAN FERNANDO CAL

# Irrigation and Forestry

### IRRIGATION EXPERIMENT AT DAVIS.

A test of the efficiency of various types of ditch linings in preventing seepage is now being made by the Federal Department of Agriculture at the State Farm at Davis. The results of these experiments are not yet ready, and may be given out only in the form of Bulletins; but a brief account of them may be of interest.

The test ditches are uniform in size, and of the following dimensions: Depth 2½ feet, side slope 1½ on 1; bottom width 2½ feet; top width 10 feet; bottom length 42½ feet; top length 50 feet; surface area, 578 square feet.

Two of these test ditches are lined with a 2½-inch coat of concrete, of different compositions; one containing 1 part lime to 2 of Portland cement, and 1 part of this mixture to 7 parts gravel; the other consisting of 1 part cement to 4 parts gravel. Cost as follows:

Lime concrete: Labor, $16.50; material, $25.00; total cost, $41.50; per square foot, $0.072.

Concrete: Labor, $13.50; material, $28.00; total cost, $41.50; per square foot, $0.072.

One lining consists of brick dipped in hot asphalt, laid flat, and then flooded with hot asphalt:

Brick and asphalt; Labor, $12.37; material, $25.00; total cost $37.37; per square foot, $0.064.

Burlap coated with road oil, and later covered with 1-inch layer of soil, cost $0.018 per square foot.

Clay puddle, 2½ inches thick: Labor, $7.00; material, $3.00; total cost, $10.00; per square foot, $0.0175.

Neat cement, ¼-inch coat, formed by sprinkling dry cement on the moistened soil surface of the ditch: Labor, $2.50; material, $3.75; total cost, $6.25; per square foot, $0.011.

A coat of alkali puddle put on like the clay puddle cost $0.025 per square foot; and a coat of road oil, at a cost of $0.008 per square foot, was applied to one ditch. One ditch was left without lining.

This test is being made on the University Farm at Davis, where there is a station of the Weather Bureau from which corrections can be made. The results will be valuable to all who use irrigation ditches.

# A Modern Pumping Plant

## A Well Arranged Irrigating Plant on Rancho Venturilla, Rivera, Cal.

The beautiful Southern California view here presented is on Rancho Venturilla, the residence of Dr. J. Allen Osmun, situated in the San Gabriel Valley near Rivera and near the line of the Pacific Electric Ry. from Los Angeles to Whittier.

The smaller picture gives a good idea of the modern source of water supply, the drilled well with the pumping plant as a necessary appurtenance of the profitable farm.

This ranch consists of a little over 100 acres of fine soil under a high state of cultivation, set out principally to walnuts, 60 acres in oranges and some alfalfa. It may be pointed out as a well developed type of the well equipped profitable farm which has attracted large investment in property of this class in Southern California.

This property was entitled to gravity water of 200 miners inches flow from the Walnut Growers Irrigation Co., and from the Arroyo Ditch & Water Co., 150 inches, which is an abundant supply and at the same time one of the cheapest supplies in the State, as the rate from one company was twenty cents an hour and from the other twenty-five cents per hour for the full head of 150 or 200 miners inches. The inconvenience of taking water at the particular hour, day or night, caused Dr. Osmun to spend about two years investigating 50 to 60 pumping plants covering all methods of raising water, with the idea of obtaining the best scheme for his own water supply.

Besides the inconvenience of seeing that his men were on hand at the stated hour, for example two o'clock in the morning, to take care of the head of water, Dr. Osmun estimates that by doing his irrigating in the day time he does the same work with half the help, also that his men not having to work nights can keep his teams busy during the regular daylight hours; and further that having water at the proper time aids the financial results of cultivation to a very material degree. Being active President of the Whittier National Bank, one must admit that Dr. Osmun is capable of passing on the financial merits of the individual water supply under his conditions without error, and he states emphatically that the accrued results far more than pay the interest on the investment in the pumping plant. After making the investigation the liberal representations of F. J. Kimball induced Dr. Osmun to install a Twentieth Century Air Lift plant. Accordingly Mr. Wright of Downey was engaged to drill a 12-inch well to a depth of 270 feet, in which the water raised to within 13 feet of the surface. The contract with Mr. Kimball called for the delivery of 125 M. I. out of the well with a 25-H. P. distillate engine and air compressor. At the first test 125 M. I. were pumped and as the flow has cleaned the well the water has increased to 160 M. I., giving sufficient suppply for 500 acres if pumped only 10 hours a day. During the two years this plant has been in operation there has been no money spent for repairs or sand pumping.

Dr. Osmun, speaking of the installation says: "The plant has not only come up to the calculations but has exceeded my expectations. The first cost fell about $250.00 below the estimate furnished by Mr. F. J. Kimball and it is a rare case where a hydraulic engineer does the work within the estimated cost. It costs me a little more per hour than the gravity water, but when the water company assessments are considered to cover river dam maintenance, etc., my pumped water is cheaper, and of first importance to me, is that I have the water when I want it, as long as I want it, and my pumping machinery is never out of order to interfere with this arrangement."

In the picture the engine house is shown in the back ground about 12x36. All the working machinery is here under cover. The gasoline engine is arranged to start with compressed air, and is belted to a two cylinder enclosed crank case compressor of the latest make. The air goes from the compressor to a small air receiver in the engine room and from there is taken down the well; the lower end of the air pipe being screwed into the 20th Century Air Lift. The discharge pipe bringing the water up out of the well is screwed into the top of the Air Lift, both pipes being inside of the 12 inch casing of the well.

The round tank shown is attached to the top of the discharge pipe with a retaining deflector inside to prevent the water from spouting over the top of the tank. The stream flowing into the cement weir at the time this picture was taken was about 150 M. I.

Dr. Osmun says there are many farmers who would profit by using a pumping system of this kind and he will be glad to answer inquiries from such of our readers as may be interested.

* * *

Record of Test Dr. J. Allen Osmun, Venturilla Ranch, Rivera.

**20th Century Air Lift Plant.**

| | |
|---|---|
| Depth of well | 270 feet |
| Diameter of casing | 12 inches |
| Total lift of water | 31 feet |
| Gallons per minute | 1361 |
| Miner's inches | 151.2 |
| Power used (Lambert Distillate Engine | 25-H.P. |
| Engine revolutions per minute | 180 |
| Brake horsepower of engine | 21.5 |
| Useful H.P. of water lifted | 10.65 |
| Plant efficiency per cent | 49 |
| Gallons used per hour | 3 |
| Cost of distillate per gallon | $.09 |
| Cost per hour | .27 |
| Cost per M. I. for 24 hours | .0428 |
| Cost per M. I. per hour | .00178 |
| Cost per 1000 gallons | .003256 |

# General Agriculture

### BEET AS A ROTATOR.

WHEN a farmer smiles a "you-can't-stuff-me" smile when the suggestion is made that he raise sugar beets not only to help out his income, but to prolong the life of his farm, one often wonders how this farmer accounts for so many European countries producing their own sugar at a cost greater than to import it. Probably he doesn't try to account for it. But the fact remains that Europe learned long ago that even with her cheapest help she couldn't compete with the peon labor of the tropical countries. Holland owns the Island of Java, but she buys almost no sugar there, notwithstanding that it produces 1,000,000 tons. France gives only the slightest reduction to colonial sugars. But Europe didn't give up making it because she could buy it cheaper. Duty was put on imported sugar to protect the home trade—not to insure an income to the few men directly connected with the industry—but because of the great good done to the land—a benefit which covers a long period of time. This means a slight increase in cost to the consumer of the sugar, but lessens his expenditures very materially on other products.

By protecting her sugar industries Europe has given opportunity for the investing of $500,000,000, an amount, which returns to the people $400,000,000 annually, a sum which would otherwise be paid out to foreign countries In addition to this $150,000,000 is derived from the surplus which is exported.

But the principal reason for encouraging the home raising of the sugar beet is as a crop rotator. Used in this way it has reclaimed much worthless land and made good land much more valuable for crop producing purposes. This argument has often been advanced, but most everyone seems to think it untenable. However, in Germany, wheat, barley, rye, potatoes and peas were grown on land just following beets and the yields per acre were increased in the following percentage: Wheat, 24 per cent; barley, 25 per cent; rye, 15 per cent; potatoes, 102 per cent; peas, 86 per cent.

The item of potatoes is a very suggestive one and indicates the future possibilities of the Salinas Valley. Land constantly grown to one crop soon deteriorates. If Blanco, Chualar and all sections primarily interested in potato raising would rest their land by a two-years' rotation with the sugar beet the next few crops, after a return to potatoes would be astonishing.

There is nothing supernatural about this. Thorough cultivation of the land affects not only the growing crop but those of the following year or two. To grow beets the land is plowed deeply and carefully, and thorough cultivation is given during the growing season. The plowing is deeper than ordinary by five to ten inches and just so much more land becomes available for future plants, as most crops can derive moisture and nutriment only to the depth of plowing. Repeated plowings to one depth leave a hard-pan through which it is almost impossible for roots to penetrate. This is broken up by the plowing for the beets.

In the case of the sugar beet numerous small fibrous roots will penetrate many feet down and to the sides, breaking a way through hard, resistant soils.

When the beets are dug these roots are broken off and by rapidly decaying replace humus in the soil, and the humus is the life of the land. In the same way the tops also contribute humus.

The holes made by the tiny rootlets are left and the roots of future crops will follow these paths, thus reaching increased stores of available food. So there is nothing supernatural in regard to the way the beet improves the soil.

One more reason, of a more general nature, showing the value of the sugar beet is in remote sections—particularly arid regions—where long hauls and heavy freight rates prohibit the shipping of low-priced, bulky commodities. Here the bulky beets can be turned into sugar and the $5 per ton is turned into $100 and shipped to a market consuming hundreds of thousands of tons of sugar and capable of handling a vast amount more. Verily, the United States can and should be her own Sugar Bowl.—R. L. Adams, Director Experiment Station, Spreckels Sugar Co.

### UTAH USING CARE.

The California State Board of Trade is in receipt of the following letter from the State Inspector of the Horticultural Commission of Utah. "I beg to call your attention to Section 14 of the new horticultural law, which bars, from Utah markets, fruit showing evidence of the work of the codling moth, and San Jose or other scale insects.

We feel that you are deeply interested in this matter, inasmuch as there is considerable fruit coming from your state into our markets. It is not our desire in executing this law to work any hardships on the fruit growing interests and as there are a number of markets which will take this class of fruit, this market can be avoided. The law will be rigidly enforced here, and no doubt by giving this publicity among your fruit growing interests, you will save considerable financial loss to any shippers who might unknowingly send fruit infested here.

It is our desire to co-operate with all shippers, and assist them in every way possible, and thus avoid loss through condemnation.—(Signed) J. Edward Taylor, State Inspector."

The Section 14 to which reference is made reads in part as follows: Horticultural Law of Utah Chapter 48 Session Laws of 1909.

"Unlawful to Sell or Offer for Sale Diseased Fruits. Section 14. "It shall be unlawful to sell or dispose of or offer to sell or dispose of or to have in one's possession for sale or barter, any fruit which is or has been infected with San Jose scale, or other scale insects, or the larvae of the codling moth, and the fact that any fruit bears the mark of any scale, or is worm eaten by the larvae of the codling moth, shall be deemed conclusive evidence that said fruit is infected within the meaning of this section; and the state and county inspector and the deputies are hereby given power to seize and destroy such infected fruit whenever they shall find that the same has been packed, sold, shipped or offered for sale, or is being held in any warehouse, store, salesroom or other place for the purpose of being sold, bartered, shipped or exposed for sale or bartered.'"

### FARMING IN NORTH MAY BE PROFITABLE.

That farming in Alaska can be made to pay is the opinion of many agricultural experts who have done considerable experimenting on their own account, and have verified their work by the Government experiment stations. The consensus of opinion is that in any of the big valleys farms will prove profitable, inasmuch as there is gradually growing up a market for farm products owing to the rapid extension of transportation facilities.

It has been observed that many of the methods of farming in progress in the United States and Canada will have to be considerably modified because of the difference in the seasons. Above Sitka the ground rarely thaws completely out, frost being found at a depth of 12 feet or so. This, however, has little effect upon the growing of grains, fruits and vegetables. The Department of Agriculture at Washington has issued a report that suggests to the farmer taking up new land in Alaska that he should be content the first year to clear and break his land, and put off his seeding until the following spring, as in many instances it will be found that a surface moss covers the soil, and this must be removed and burned. The report is encouraging, however, and a perusal of it would indicate that a man will find little difficulty in growing successful crops during the four months' farming season. Reports on stock raising are most encouraging, several instances of stock being turned out to winter themselves having been proved successful.


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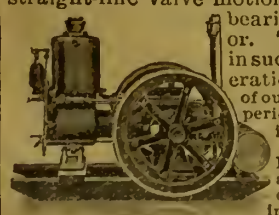

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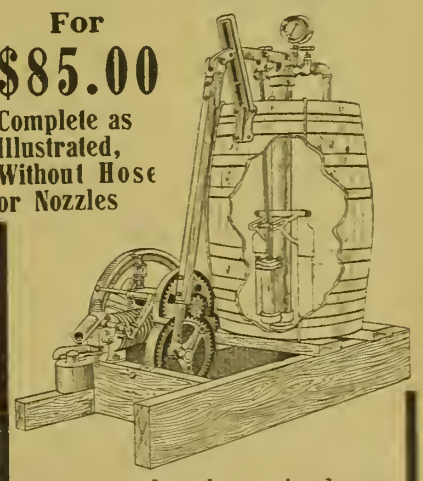

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# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Ar·bian Alfalfa.

Having noted your references to Arabian alfalfa, I wish to know whether it would do well in the Turlock district; also where may I get seed; about what is cost of the seed; how much seed per acre would be required; would it be better to sow in the fall or spring; would it stand without water from now until winter after having been well irrigated?—L. P., Waterford.

We doubt not this will do well in the Turlock district. The tests made would indicate that conditions prevailing there would meet its requirements perfectly. The seed cannot be secured at this time. Importers are planning to supply seed houses for the coming fall. It is estimated that the cost will be about double that of the ordinary alfalfa seed. So far as we have heard about the same number of pounds of seed per acre will be required as for the common variety, or about 20 pounds. If you have reasonably clean seed, that amount will give you 44 plants to the square foot which is more than thick enough if all seeds grow. Of course the amount of seed required depends upon the nature of the land and the care with which it is sown. We would prefer fall sowing if water can be had to put the land in good moist condition; otherwise February or March, or just as early as we could feel sure that frost would not catch the young plants. Once established it is possible that no irrigation during last part of the summer would not kill it out, but of course unless the land were naturally moist no crop need be expected.

### Cabbage Worms.

Please tell me what will kill small green worms on cabbage? I have used oil of bergamot diluted with water; also gasoline and a lime solution, but have been unable to exterminate them.—T. P., Elkgrove.

If the plants are young and not near the stage when they will be used on the table, we would spray with Paris green or arsenate of lead. If in garden or in small quantity, hand picking of the worms is often resorted to and is the safest method. Another remedy is buhach or insect powder stirred in water and sprayed over plants.

### Lady Bugs.

A subscriber writes to the Cultivator asking as to whether there is any market value for colonies of lady bugs, and if there might be a business developed in gathering and shipping them to fruit growers who might wish them for insect pest destroyers If any of our subscribers know of wants along that line, and will write us, we will put them in touch with our inquirer.

### Estimating Hay in Stack or Mow.

Kindly tell how to measure barley hay in the stack.—A. L. C., Gardena.

No absolute method can be given because of variation in kinds of hay and length of time since stacking. Of course old hay which has settled for several months is more compact than new hay which has just been thrown up. Alfalfa is much heavier than barley. The weight also varies according to whether it is fine and short or has strawy stalks. Approximately we may say that a ton of hay occupies about 400 cubic feet. Therefore to secure the tonnage of stack, multiply together the length, breadth and heighth to the eaves or angle as which stack begins to slope. This will give the cubic contents of the lower part of stack. Then to find the contents of upper part, multiply length by breadth by one-half vertical distance from level of eaves to crest (if angle is reasonably regular). Add contents of upper and lower parts, of course keeping all dimensions in feet, and divide the sum by number of cubic feet allowed to a ton, or as we have said approximately 400 feet, or possibly for barley 450.

### Wonder Berry.

A subscriber at Trail, Oregon, writes: "I enclose clipping from an English paper referring to the wonder berry. This has been largely advertised and I bought some of the seed. Have some plants growing and blossoming. This clipping taken from an English paper says:

"The Wonderberry (Solanum nigrum)—A printed description has been widely distributed in this country of a plant of very doubtful character. Botanists who have examined both flowering plants and seeds of it are certain of its identity with one of the commonest of all annual weeds, the fruits of which are not only disagreeable, but poisonous. We have received from several correspondents plants which they had raised from seeds of the wonderberry, and in every case they have proved to be Solanum nigrum. This plant is undoubtedly poisonous, children who have eaten the fruits having died soon after from the effects, which are very distressing—vomiting, colic, convulsion, etc.

We believe many people in this country have been induced to purchase seeds of the wonderberry, and, notwithstanding what has been said of it by the vendor, we warn them that the plant is dangerous."

The subscribers adds: "If this newspaper clipping be correct, the lives of many are in danger, and wide publicity should be given to the facts."

We have referred our subscriber to Mr. Roeding's article in our issue of August 5th, in which he spoke of eating a couple of handfuls of the wonder berries and finding them good.

This berry has called forth the sharpest criticism from all parts of the country. No doubt it has been boosted beyond reason, but we presume has some merit. The danger of poisoning is certainly exaggerated by our English contemporary.

### Zapote.

Mr. M. E. Dillingham of San Gabriel, recently brought to the Cultivator office a sample of fruit shaped somewhat like an apple and having oblong seeds. The tree on which the fruit grew is located on the corner of Washington and Figueroa streets in Los Angeles, and no one had been found who seemed to know anything of the fruit or the history of its planting. The leaves and seed were referred to Dr. F. Franceschi of the Southern California Plant Introduction Gardens at Santa Barbara. He writes us as follows:

"Casimiroa Edulis, (zapote blanco) of the Mexicans, is the name of the tree of which you enclose leaf and seed. It is a native of almost all the northern states of Mexico. In 1893 when I lived in Los Angeles, I had noticed this particular tree, at the corner of Figueroa and Washington; there were two of them at that time, about 10 or 12 years old, and they had been frozen down to the ground more than once in their young years. If I remember well, they were the only ones of their kind in L. A. in 1893. There must be quite a number at present."

In addition he enclosed circular regarding fruit, from which we quote: Casimiroa Edulis; the first semi tropic fruit ever produced in California, there being one large tree in Santa Barbara, coeval with the Old Mission, and more than 100 years old. This grows to quite a large size, very much spindling up in the young stage, but, with time making a spreading, dome-shaped, umbrageous tree. Leaves trifoliate, shining, generally dropping about August, but coming out again at once. Fruits size and shape of an apple, yellowish,


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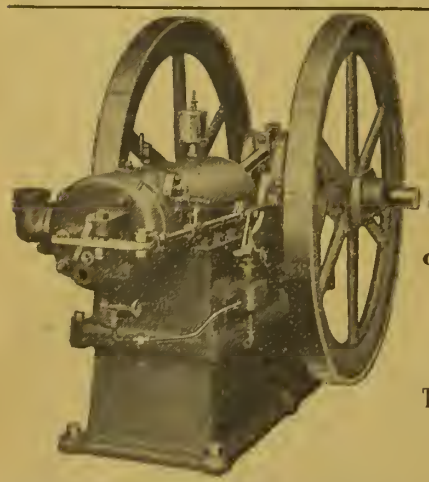

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containing a very sweet pulp, which in Mexico is said to make one go to sleep if partaken of too freely."

### Plowing.

For grain crop, how deep and how often should the land be plowed?

When is the best time to plow for barley? for alfalfa?

I am taking out an old orchard this month. Would you advise a grain crop on that land first or will alfalfa do well? Will alfalfa make seed the first year?

On an 80-acre alfalfa ranch, what is best for lining ditches and reservoir to prevent seepage?—J. A.

The depth of plowing for grain will depend something on the depth of former plowing as it is not advisable to turn up too much soil that has not been exposed to the weather at one time. It is safe, and in most cases best to plow about an inch deeper than the old plowing each year until a depth of 8 to 9 inches has been reached. This gives a seed bed that is deep enough to hold sufficient moisture to mature a crop in all ordinary seasons. One deep plowing each year is sufficient but if fall plowing is done the soil should be made firm, which can be done by going over it with a disk harrow set straight, so that it will not stir the ground, then go over the surface with a spike tooth harrow to pulverize the surface and prevent evaporation. If the sowing is done immediately after the firming of the ground is done the harrowing can be done after the sowing, but if the plowing is done early in the season the harrowing should be done as soon as the disking is done and all should closely follow the plow.

The seeding should be done with a drill as all the seed is then covered at an even depth and the increase of yield will much more than pay any added expense. The young grain should also be gone over with a spike tooth harrow after every rain, as soon as possible to get on the ground with a team, until the grain begins to make joints.

This helps greatly to save the moisture that would otherwise go off without benefiting the grain, and will in no wise damage the grain.

There is no one date that is better than another for plowing except that it is best to have it done so as to be able to have the grain in early enough to get the benefit of all the rain.

If alfalfa can be sowed early enough in the fall to have the first leaves before frost comes it will make several more tons of hay per acre the first season than if sowed in March,, or after the danger of frost is past.

There is no reason you should not sow alfalfa on the old orchard ground this fall if all the loose roots that might be in the way of the mower have been removed and the ground flooded to settle the loose dirt where the trees were removed.

Alfalfa will make seed within a few months after sowing, but the crop will be light.

Cement lining is best for all permanent ditches and reservoirs but a fairly good lining can be made by using heavy crude petroleum well worked into the banks and tamped down.—J. B. N.

### Pruning Berry Vines.

Will you please give me instructions in regard to pruning mammoth black berries. I set some out last April and they now have vines fifteen to twenty feet long. Also should dew berries and Logan berries be pruned?—J. T., Santa Barbara.

A very good method is to cut the mammoth vines back to say ten feet and if you would stretch a wire along the row about 15 or 18 inches above the ground and tie the canes to it, the fruit next season would be kept off the ground. If quite a number of canes have grown out from each plant thin out the weakest and leave not more than five or six. This pruning can be done any time from November to February.

Many growers prune and trellis both Logan and Dewberries. I always thought it wasted labor to trellis either unless one had but a very few vines in the home garden. If you wish to trellis them do it as above described—and prune so that the canes will meet along the wire when laid each way from the plant. If you leave six canes to the plant this would allow three each way. If your plants are very close in the row it will not hurt to allow the vines to more than meet, but keep in mind that the more canes that are allowed to remain, the smaller the fruit.

If you do not trellis, prune the same as described and lay the vines the same—keeping them in place with small pegs or stakes. In the spring when they throw out their fruit stalks they will all crowd up toward the light and it will be easy to gather the fruit. The wood that has fruited should be cut out just as soon as the crop of fruit is off and the bed kept free of weeds. This pruning can be done any time during the winter.—Q. A. L.

### Lice.

Have a young Jersey cow fresh last March with first calf. About two weeks ago the hairs on her right hip came off in spots the size of a quarter. She got thin and fell away in her milk to almost nothing for three or four days, when she got back to normal. She is fed nothing but green alfalfa.—H. G.

I would suspect chicken or other lice and would wash the cow with one of the coal oil derivaties as cresol or creolin. There are a number of others that I do not recall at present, but the local druggist will give them to you. There is a form of scaly ring worm that sometimes affects cows. This should be washed with warm soap water containing carbolic acid until all the roughness disappears and then lard and sulphur well rubbed in. Red murcurial ointment is almost a certain cure, but the cow must not be allowed to lick it. The lard and sulphur is harmless. When lice are on cattle examine for them about the ears and under the crotch of the forelegs.—M. E. S.

### Garget.

We have a six year old Jersey cow that has had her third calf and ever since her last calf we have had trouble with one of her teats. It is hard to milk and only gives about one fifth as much as the other teats and the milk is lumpy. Should we dry it up or not? Do you think it will be all right when she is fresh again?—A. C. P.

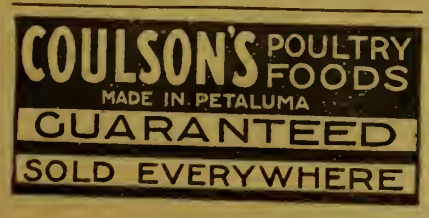
A touch of garget. Bathe the udder in warm water and manipulate the quarter affected, milking slowly until all the milk is drawn. If in these cases an hour a day was spent on the quarter for one weeks' time the trouble would be cured. Hot water or hot lard well rubbed in five minutes, at least, by the watch.—M. E. S.

### Milk Fever.

Please give remedy for milk fever My cow was affected at freshening time with last two calves.—A., Modesto.

It is only by good fortune that this cow has escaped death in two attacks of milk fever. Chances are she will go this next time. It would be kinder to milk a cow like this for a couple

(Continued on Page 191.)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FOR SALE—25 H. P. GAS ENGINE. Will be sold cheap. BAILIE & BRANDT, 943-945 North Main St., Los Angeles, Cal.

FOR SALE—RENT OR EXCHANGE, boilers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main St., Los Angeles, Cal.

### TREES.

FOR SALE—1500 EUREKA LEMONS, 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. B. WARNER, Santa Ana, Cal.

FOR SALE—ABOUT 250 VALENCIA orange trees. Will sell in ground at right prices. Come and see them. M. E. DILLINGHAM, San Gabriel, one mile north of Masonic Home. Phone Black 198, Alhambra Home.

FOR SALE — SEEDLING PEACH trees, ready for budding, in quantities to suit purchaser. E. M. BOGER, Redlands, Cal.

FOR SALE — STRONG OUTDOOR grown rooted cuttings. Send for 1-2-3 cent list. Other plants. Fine lot Blue Gums qt. tins—3 to 4 ft. GEM NURSERY, Los Gatos, Cal.

### STOCK FEED

YOU MAKE MONEY BY FEEDING fresh pulp at fifty cents per ton, f.o.o. cars or wagon. Also molasses $1.50 per barrel. LOS ALAMITOS SUGAR COMPANY, Los Alamitos, California.

### CATTLE.

SPECIAL—FOR SALE, HOLSTEIN bulls, two old enough for service and a number of yearlings. Also a few calves that are small enough to crate. Julianas, De Kols and all the strains for which this herd has been famous are represented. The only cows to hold World Records raised in the state were bred on this ranch. Same blood still represented largely in the herd. MINNEWAWA STOCK FARM, Fresno, Cal.

FOR SALE—REGISTERED JERSEY bull calf four months old. T. H. BOWEN, R. F. D. No. 2, Santa Ana, Cal.

### HOMES FOR CHILDREN.

HAVE YOU A BOY? IF NOT, LET us send you one. We want country homes for boys of all ages. Arrangements to suit. CHILDRENS' HOME SOCIETY, 2414 Griffith Ave., Los Angeles, Cal.

### FERTILIZERS.

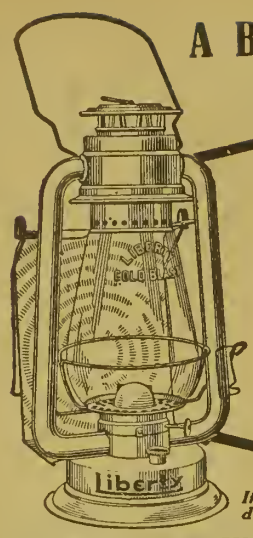
NOW IS THE TIME
to fertilize for results in the coming crop.

ARMOUR'S "O.T.M.", "B.B.&P.", and "5-8-2" grow big crops and build up the soil. They have been doing it for years.

THE ARMOUR FERTILIZER WORKS, Los Angeles, Cal.

### HOGS.

REGISTERED BERKSHIRE AND POland China hogs, both sexes. C. A. STOWE, Stockton, Cal.



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Every detail of every Liberty Lantern is the best. Best material. Best workmanship. Best design.

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give the biggest, clearest light. The burners are supplied with just the right amount of air. The globes are of the finest lead flint glass. They are tight and compact. Never rattle. Never blow out or jar out. Bail stays where you put it. The simple globe lifting device makes lighting easy.

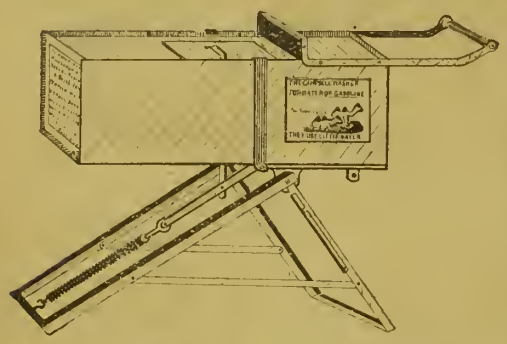
*If not at your dealer's write us.*

60 cents to $3.50

**SIMMONS HARDWARE COMPANY (Inc.)**
**St. Louis and New York, U. S. A.**

**CUT OUT YOUR LAUNDRY BILL**

**A Campbell Washing Machine**



will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

**FOR WATER OR GASOLINE**

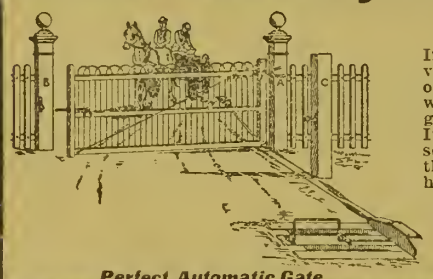
Circular on application. **For Sale by**

**Boesch Lamp Co.**

**1135 Mission St.,** Near the Post Office, **San Francisco, Cal.**

**20th Century Automatic Gate**

***Always in Order***



*Perfect Automatic Gate*

In general use for motor as well as horse drawn vehicles. Opened or closed without assistance or stopping. The gate can be placed at any driveway entrance. The machinery is all above ground, and so simple it never gets out of order. It will last a lifetime, and usually pays for itself, in time saved, within a year. It adds to the beauty, value, convenience and safety of any home. Address

***A. J. Bloom***
***Petaluma, California***

**COLONISTS LOW FARES**

**PAY THE AGENT AND BRING FRIENDS**

Low fares will again be in effect from all points east of and including Salt Lake City to California points, from September 15 to October 15.

$33.00 from Chicago, $25.00 from Missouri River, Colorado and Utah points, and like reductions from all points East and South.

You can pay any Salt Lake Route agent and have ticket furnished to Eastern Friends.

Full particulars at all Ticket Offices and at

**601 So. Spring St., Los Angeles**

about these low rates

**FROM the EAST VIA SALT LAKE ROUTE**


# Household Department

### THE BOY FROM TOWN.

Lst night a boy came here from town
To stay a week er so
Because his maw is all run down
And needs a rest, you know.
His name is Cecil, and he's eight,
And he can't skin the cat—
His maw she calls him "Pet"; I'd hate
To have a name like that.

He wears a collar and a tie
And can't hang by his toes;
I guess that I would nearly die
If I had on his clo's;
He can't ride bareback, and today
When we slid on the straw,
He ast if roosters help to lay
The eggs I pick fer maw.

When our old gander hissed he run
As though he thought he'd bite,
And he ain't ever shot a gun
Or had a homemade kite;
He never milked a cow and he
Can't even dive or swim—
I'd hate to think that he was me,
I'm glad that I ain't him.

He thinks it's lots of fun to pump
And see the water spurt,
But won't climb in the barn and jump
For fear of gettin' hurt.
His clo's are offle nice and fine,
His hair's all over curls,
His hands ain't half as big as mine,
He ought to play with girls.

A little while ago when we
Were foolin' in the shed
He suddenly got mad at me,
Because I bumped his head.
There's lot of things that he can't do,
He thinks that sheep'll bite,
And he's afraid of ganders, too;
But he can fight all right.

—S. E. Kiser.

### SHE WAS PARTICULAR.

"IT'S not a bit of use trying to please neighbors," remarked Mrs. Deeson. "I've done my best to be neighborly with Mrs. Harker, I'm sure. I put on my best clothes and called almost before the movers had gone away. Then that very afternoon, just to show her that I didn't want to put on airs, I borrowed some flour from her."

"I always found Mrs. Harker very friendly when she lived near me," said Mrs. Deeson's caller.

"Oh, she's friendly enough. It's just that she's a little too snippy to suit me. I used to use her telephone a lot—it was unlimited and I couldn't always be going to the drug store with my nickel, and hers was so handy that I used to go over often. She never had much to say, but I asked her one day how she liked doing her own work. She said she wouldn't mind it if she had some one to tend the door. I didn't think the remark tactful, as I had been there three times that day."

"Maybe she didn't mean anything. I always found her very willing to do for others."

"That's the way I am—always helping some one. One day I ran in to see if she had her coal range going and when I saw it was I asked her to let me put a pot roast on and save my gas. Of course I offered to help her any time.

"'Thank you,' she said. 'Perhaps you won't mind letting baby go to market with you; he's fretting to be out of doors and I want to bake some pies.'

"'Oh, very well,' I said, though I don't like pushing baby cabs, 'I'll take him along.' I did and she acted very hateful afterward."

"That isn't like Mrs. Harker," commented the caller.

"Maybe she thought she had reason to be mad. I left her baby in front of the grocery while I went into the market and as I went out at the other door I forgot the child. Anyway, it didn't hurt him to sit there in the sunshine, and I couldn't be expected to remember everything with so much on my mind."

"When did you remember him?"

"I didn't until she asked. I offered to go after him as soon as I had put my dinner on to cook, though I really hadn't time to go back. Still, I wanted to do the right thing. Was she satisfied? Not she! She had her hat on in a jiffy—didn't even stop to wipe the flour off her hands—and flew down the stairs as if some one was going to eat the child."

"What a fuss about a little thing! The baby hadn't cried much. A little crying is good for children. Well, she was real frosty with me for a time. But I don't bear any malice, so one day when she was baking I asked her to exchange pies with me, since it is not much more trouble to bake two pies than one. Her pies are awfully good—so are mine, for that matter, though I hate the trouble of making 'em.

"She had some unexpected company the next week and so she asked me for a pie. I gave her one I got from the bakery."

"I don't wonder she—"

"Oh, it was a good enough pie, and I didn't feel like baking that day.

"I borrowed some eggs of her a long time ago when they first moved in. Of course I intended to return them at once, but somehow it slipped my mind. As soon as I did think of those eggs I rushed right over with 'em—made a special trip. Was she grateful? No, I should say not. She said I borrowed the eggs when they were 50 cents a dozen and returned them when they were 15 cents, and that I ought to pay the difference.

"'I didn't borrow money.' I told her. 'I borrowed eggs—and here they are.'

"'You ought to make up the extra cost of the eggs you got of me,' she said.

"'I never knew that a dozen eggs was more than a dozen eggs,' I answered, putting them on the table, 'and they are the last thing I'll ever borrow of you.'

"'Thank goodness! They are cheap at that price!' said the spiteful thing.

"'I haven't been inside her door since then! Neighborly, indeed!'"—Chicago Daily News.

### FIRELESS COOKER RECIPES.

There are certain things to be remembered by the inexperienced cook. One is that if a dish is left indefinitely in the cooker it will sour. Soups, stews, vegetables and such things must be removed when they have been in twenty-four hours and less in hot weather.

Another thing is that some foods require a longer time on the fire before being put in the cooker than others do. Cereals may take only ten minutes, and tough meat half an hour; it is best to find out something about the length of time the different things require before beginning to use the cooker. Generally speaking, all indigestible things take longer than the rest; oatmeal, beef stew, corned beef and beans need more time than steamed puddings, rice and chicken.

A third thing to remember is this: Everything that takes a very long

time to cook is improved, and the process hastened, if, when the time is half up, and the food cooled, the pail is removed and reheated without opening it, and put back again. In all cooking, also, one must be careful not to uncover the pail with the food in it before putting it in the box. It must be kept tightly covered from the time it is put on the fire, or the steam will escape, and the meat or soup cool so that it cannot cook. Put everything in as quickly as possible, and cover at once.

**Cereals.**

Fill the large outer pail with water and bring to a boil. Put in the smaller one the required water, and boil this also; add the meal and salt, cover and boil hard ten minutes; put the smaller kettle inside the larger and set away in the box; leave over night, and in the morning beat up well and reheat. Oatmeal requires one cup of meal to three of water, and cornmeal and rice four of water.

**Vegetables.**

Prepare these as usual, boil for five minutes, put the inner kettle into the outer filled with boiling water without uncovering and set all away. Potatoes will cook in an hour if small; they must be dried in the oven later, to make them mealy. Pease, if tender, will cook in an hour; beets, squash, turnips and carrots take three hours, and should be taken out when half done and reheated, the water in the outer kettle reboiled and both returned to the cabinet.

**Baked Beans.**

Soak the beans overnight in cold water; in the morning turn this off and add twice as much fresh water as beans; and also a piece of salt pork. Boil hard for fifteen minutes; put this pail in the boiling water in the outer pail and set both in the box for three hours. Remove, boil hard again, and put back three hours more; put into a baking dish and brown in the oven. Add salt, molasses and a little dry mustard at the time of the second heating.

**Boiled Fish.**

Put the fish in a clean piece of cheesecloth and tie it up; simmer ten minutes in boiling water; set the pail in the outer one of boiling water and put away three hours.

**Soups.**

Cut up the meat, and put it on the fire in cold water; boil the vegetables with the meat; season well; leave in the cooker all night; skim, strain and reheat.

**Roast Meats.**

Sear the roast all over in a hot, dry frying-pan; put in a very hot oven in a pan with two cups of water, and bake twenty minutes; bring the water in the outer pail to a boil, put the roast in the inner pail with seasoning, cover tightly, and set in the one with the water; cover this also, put on the fire, and boil hard ten minutes; put in the cabinet for three or four hours, depending on the size of the roast. Remove, and thicken the gravy on the stove and reheat the meat. Chicken is especially good prepared in this way.

**Boiled Meats.**

Corn Beef.—Put the meat over in cold water in the morning and let it come to a boil; simmer fifteen minutes. Set in the outer kettle of boiling water, and put away for five hours in the box; prepare the vegetables, open the kettle, and put these under the meat; reheat all and return to the box for three hours; this will be done by night.

**Beef Stew.**

Cut up the meat and brown quickly in hot fat; add a cup of water to two of meat, with seasoning; boil ten minutes, and put into the box for two hours. Reheat, and cook two hours more in the cooker.

**Lamb Stew.**

Cut up the meat, put on the fire, and cook ten minutes; put in the cooker for two hours; take out, add minced vegetables or tomato, reheat, and cook two or three hours more.—San Jose Mercury.

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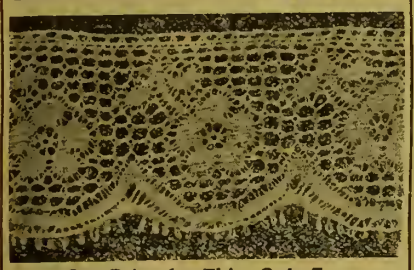
Brass work can be kept beautifully bright by occasionally rubbing with salt and vinegar.

Wash the mica of the stove doors with salt and vinegar.


**SPECIAL LACE OFFER**



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We buy our laces from the manufacturer and sell, by mail only, direct to consumer, at fully ⅓ less than retail prices. Send your name and address for our free samples and photographs of 125 widths and styles.

***LA VAL LACE CO., Importers***

***234 Mason Bldg., Los Angeles, Cal.***

***Only 5c a Yard***

COOL WATER IN THE HOT SUN
"NO, MR. SUN, YOU CANT WARM THE WATER IN THE APPELL WATER BAG."
SOUTH AFRICAN WATER BAG
THE ADAM APPELL CO.

Appell's SOUTH AFRICAN WATER BAG

Take no Substitute

Keeps water cool 48 hours or longer; in sun or shade; great boon to prospectors, surveyors, sportsmen, stockmen, farmers, teamsters, anyone exposed to dry or warm weather. Used by U. S. Gov't. Strong, light, convenient to carry. Guaranteed.

FOR SALE BY DEALERS EVERYWHERE

Made by Adam Appell Water Bag Co., Portland, Or.

**THE SAVINGS AND LOAN SOCIETY**

**101 MONTGOMERY ST.**

**SAN FRANCISCO**

For FIFTY-TWO YEARS this bank has conducted a savings bank business exclusively. It has always paid the highest rates of interest consistent with sound banking. Our interest circulars show the rates paid during the entire life of the Institution. Accounts may be opened by mail.

**THE OLDEST SAVINGS BANK IN CALIFORNIA**

**ATLAS E-Z SEAL JAR**

When preserving time comes round and the "jar question" comes *up*, you will decide wisely if you choose jars of the "Atlas" brand — they are far superior to all others. The Atlas E-Z Seal Jar shown below is an *instant* and *perfect* sealer. It has a *wide mouth*, that permits the preserving of whole fruits. It is extra strong at the top and *not* easily broken. It is made by machinery and therefore of uniform thickness and perfectly smooth finish. The most convenient jars to *fill*, *empty* and *clean* are "Atlas" brand jars.

**ATLAS SPECIAL MASON**

is another extra good jar. It possesses every advantage of the E-Z Seal — strength, wide mouth convenience and smooth finish, but closes with a screw cap. Made specially for those who prefer this kind.

**A Book of Preserving Recipes**

Sent free to every woman who sends us the name of her grocer, stating whether or not he sells Atlas jars.

If your dealer cannot supply these jars, send $3, and we will express prepaid thirty (30) quart size ATLAS E-Z SEAL JARS to any town having an office of the Adams or U. S. Express Co., within the States of Pennsylvania, New Jersey, New York, Delaware, Maryland, Virginia, West Virginia, Ohio, Illinois, Indiana or Michigan, or we will quote delivery prices in other portions of the United States by freight or express.

**HAZEL-ATLAS GLASS CO., Wheeling, W. Va.**

**WOULD YOU LIKE TO SLEEP ON A MATTRESS**

That is guaranteed to be absolutely hygienic?

That insures healthy, comfortable sleep?

That possesses all the good qualities of the finest hair mattress at about one-half the cost?

That is made in a factory where every precaution has been taken to insure the most perfect sanitary conditions?

That is made by skilled workmen in the most approved manner and the latest style?

That is guaranteed to give perfect satisfaction or your money promptly and cheerfully refunded?

That costs $15.00 for the full size, $12.50 for the ¾ size, $10.00 for the single size and is positively the best mattress made anywhere at these prices?

A Postal Card Addressed to the

*John Breuner Co*

**Sacramento, California**

Will bring you a booklet describing their famous **"Kapokeen"** Mattress, which has all the good points mentioned and many more. Write today

**Angle Lamp**

**The Light That Never Fails**

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes. Here are a few of The Angle Lamp Merits:

**NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.**

**GREAT ECONOMY—COST LESS TO BURN** than an ordinary lamp. As easy to operate as gas or electricity, and better than either. **ABSOLUTELY SAFE** under all conditions. Lighted and extinguished like gas. Burned **HIGH or LOW like GAS** without a trace of odor. And a **BRILLIANT, soft, steady, shadowless light**—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

***Send for Illustrated Catalogue with Prices***

**Boesch Lamp Co., 1135 Mission St., San Francisco**

Established 1869 Incorporated 189

**Bee Supplies**

**For the Pacific Coast**

We are the exclusive agents for the **A. I. Root Co., Medina, Ohio.** Our hives are manufactured from selected California Sugar Pine. Branch houses at Los Angeles and Elk Grove, Cal. Write for Catalog. We also manufacture orange, fruit and packing shook, drying trays, etc. Beeswax wanted.

**Madary's Planing Mill,**

**Fresno, California**

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Aug. 18, 1909.

### Butter.

Butter remains at last week's quotations with featureless market.

Creamery per roll .....60@62½
Dairy per roll .....30
Eastern creamery per lb .....30
Cooking .....25

### Cheese.

Southern California Anchor .....20
Northern fresh .....17½
Anchor Young America .....21
Domestic Swiss .....21@23
Imported Swiss .....30

### Eggs and Poultry.

The egg market shows little interest and absolutely no change in quotations since last week.

Paying price f. o. b. L. A. are:
Eggs .....34@36
Case count buying price .....31
Eastern .....30

Dealers pay for live poultry f. o. b. L. A.:
Hens per pound 3½ up .....14
Stags and old roosters .....7
Fryers 2 to 2¾ lbs .....15
Broilers 1¼ to 1¾ lbs .....17
Broilers 2 lb .....19
Roasters 3 lbs and up .....16
Turkeys .....19@23
Geese .....12
Ducks .....12@13
Squabs .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds .....7½
Prime steers .....4@4¼
Helfers .....3½@3¾
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.25@3.50
Wethers .....4.50@5.00

### Potatoes.

Wholesale prices are:
New sweets per lb .....2½@3½
Early Rose local .....1.50
Burbank local .....1.50@1.75
Highlands .....1.35

### Onions.

Wholesale quotations:
Silverskins, local .....75@1.00
Northern Yellow Danvers .....1.25
Australian Browns per sack .....1.25

### Vegetables.

Artichokes locals .....60@75
Asparagus .....4@6
Beets per sk .....90
Beans string .....2@3
Bell peppers .....5@7
Cabbages per sack .....75
Celery per doz .....60@90
Chili per lb .....25
Chili dried .....9@10
Cucumbers per box .....35
Cauliflower per crate .....1.25
Carrots per sk .....90
Corn per box .....40@50
Egg plant per lb .....2@5
Green onions per doz bunches .....20
Hubbard squash per lb .....2½
Summer squash per box .....40
Lettuce choice .....75@1.25
Oyster plant .....50
Okra per lb .....5@6
Peas per lb .....3@4
Parsley doz .....25@40
Parsnips .....40
Rhubarb Crimson Winter per box ..75
Radishes per doz .....15@20
Spinach per doz .....15@20
Turnips sk .....90
Tomatoes lugs .....10@35

### Citrus Fruits.

Valencias .....1.50@2.00
Grapefruit .....1.75@2.75
Lemons .....1.25@3.75

### Fresh Fruits.

Wholesale prices on the market are:
Apricots per lug .....35@50
New apples .....50
Alexanders .....1.40@1.85
Gravensteins .....1.50@1.90
Casabas per crate .....1.25@1.50
Currants .....60
Figs .....1.00@1.25
Grapes lug box .....75@1.00
Gooseberries .....10
Loganberries .....3
Nectarines .....75@1.00
Peaches box .....40@75
Pears Bartletts box .....1.40
Plums .....50@90
Prunes .....60@75
Raspberries .....5@6
Blackberries .....5@6
Strawberries .....4@5
Watermelons per lb .....¾@1

### CANTALOUPES.

Jumbos .....1.35

### Dried Fruits.

Wholesale prices are:
Apricots .....10
Evap apples fy per lb .....10@11
Figs loose .....5
Peaches .....5@6
Pears .....8@10
Plums pitted .....8@9
Nectarines .....7½@9
Prunes .....7@8

RAISINS—Muscatels, 2-crown, loose, 50-lb. boxes, 1lb., 3½c; do., 3-crown, 4c; do., 4-crown 5c; sultanas, bleached, lb., 9c; do., unbleached, 3½@4c; new seeded raisins, 16-oz. packages, 6c; do., 12-oz. packages, 5c.

### Beans Dried.

Wholesale prices are:
Pink No. 1 .....3.50@3.75
Limas per ctl .....4.50
Black eyes .....3.50
Lady Washington .....5.50
Small White .....6.50@6.75
Garvanzas .....4.00@4.50

### Nuts.

Almonds IXL per lb .....16@18
Pecans polished .....15@17
Peanuts California .....5
Peanuts Eastern .....7
Walnuts No. 1 .....12@13
Walnuts No. 2 .....9@10

### Honey.

Wholesale quotations:
Extracted water white .....7½
Extracted Light Amber .....5½@6
Comb Water White .....15
Comb white .....14
Beeswax .....25

### Hay.

New Barley hay .....8.50@14.00
Alfalfa, local .....11.00@12.50
New alfalfa Imperial .....10.50@11.50
Northern .....10.50@12.00
Wheat hay .....10.00@13.50
Tame oat .....10.00@15.50

### Grains.

Wholesale selling price f. o. b., Los Angeles:
Wheat new per ctl .....2.00@2.05
Kaffir corn .....2.00
Corn Eastern bulk .....1.75
Egyptian corn .....1.80
White oats .....2.25
Seed Rye .....2.00

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn .....1.80
Shorts .....1.90
Bran .....1.65
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....2.50
Feed meal .....1.85
Rolled Barley .....1.55

## San Francisco Markets

SAN FRANCISCO, Aug. 17, 1909.

### Butter.

Butter remained as quoted till Saturday when it advanced two cents where it still stands.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:
California extras per lb .....30
California firsts .....27½
California seconds .....25½
Packing .....24½

### Cheese.

California flats .....14@16½
Cal Young America fy .....15
Young American Oregon fy .....16

### Eggs and Poultry.

Eggs advanced on Monday a couple of cents and now stands at 34½ for fresh extras. Case counts are as last week.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:
Fresh ranch .....23@35½
Hens per doz .....4.50@10.00
Roosters .....4.00@9.00
Fryers per doz .....5.50@6.50
Broilers .....2.50@3.50
Geese per pair .....1.50@2.00
Ducks young .....5.00@8.00
Pigeons young .....1.00@2.25

### Live Stock.

San Francisco prices gross weight:
Steers .....2¾@4¼
Cows and heifers .....2@3½
Hogs .....4½@7½
Calves per lb .....4@5¼
Milk lambs .....5¼
Wethers No. 1 .....4¼
Ewes No. 1 .....3¾

### Potatoes.

Wholesale market quotations:
New crop .....75@90
Salinas .....1.40@1.50
Sweets crates per lb .....2½@2¾
Sweets sks .....2¼

### Vegetables.

Wholesale quotations:
Asparagus per box .....50@1.00
Bell peppers per box .....35@50
Brussels sprouts per lb .....3@5
Cabbage per box .....2.00@2.25
Cauliflower doz .....75@1.00
Carrots per sk .....65@75
Cucumbers per box .....40@65
Pickle cucumbers box .....65@75
Chili peppers per box .....25@35
Corn per sk .....55@1.00
Egg plant per box .....50@60
Beans limas .....4@5
Green peas per sk .....75@1.50
Okra .....65@75
Onions green per box .....50@60
Rhubarb per box for bay .....1.25@1.50
Squash per box .....25@40
String beans .....1@4
Tomatoes .....1.00@1.25
Wax Beans .....2@4
Lima Beans .....3@4

### Onions.

Yellow .....70@75

### Citrus Fruits.

Valencias .....2.25@3.00
Grapefruit .....1.00@3.00
Lemons .....2.00@5.00
Limes .....5.50@6.00

### Fresh Fruits.

Apricots per lb .....2@3
Apples new green .....75@1.50
Gravensteins .....1.25@1.50
Bellflowers .....1.00
Crab apples .....40@75
Cherries loose black per box .....50@65
Figs blk box .....50@60
Grapes seedless .....40@85
Malagas .....50@65
Rose of Peru .....50@60
Muscats .....1.00@1.25
Logans per chest .....3.00@4.00
Nectarines crate white .....40@50
Nectarines red .....75@85
Cherry plums per box .....25@35
Peaches freestones per lug box 75@1.25
Peaches per lug box clings .....40@75
Plums boxes .....40@75
Plums Tragedy crates .....60@75
Pears Bartletts .....60@1.25
Cantaloupes .....60@75
Nutmegs per box .....35@50
Muskmelons .....1.00@1.50
Pears box .....60@1.50
Blackberries per chest .....2.00@4.00
Huckleberries per lb .....12½@15
Raspberries per chest .....9.00@12.00
Longworth per chest .....3.00@4.00
Malindas per chest .....4.00@7.00
Watermelons per doz .....1.00@3.00

### Dried Fruits.

Prunes 4-size basis .....2½
Santa Clara .....2¾
½c premium for larger sizes
Apricots per lb .....7½@9
Apricots Moorparks .....11@12
Peaches—Choice ....4; Fancy ....6½
Apples evap .....7@8
Pears .....5@8½
Figs .....2½@4
Nectarines .....5@6
Pitted Plums .....7@8
RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do. No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12, 3⅜c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached. 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

Walnuts soft shell .....12½
Hard shell .....6@8½
Ne Plus Ultra .....12¾@13¼
Almonds Nonp .....14½
Pecans .....15@17
Chestnuts .....2@10
Peanuts .....5@6
Pine nuts .....22½@25

### Beans Dried.

Limas .....4.10@4.25
Pink .....2.90@3.05
Small white .....7.00@7.25
Large white .....4.75@5.00
Black eyes .....3.35@3.50
Red kidneys .....3.50@3.75
Garvanzas .....3.40@3.50
Bayo .....4.85@5.00
Horse Beans .....1.90@2.10

### Hops.

Hops 1909 crop .....17@20
Hops 1908 crop .....9@14

### Honey.

White comb .....14@15
Light Amber .....10@12
Extracted W W .....7½
Extracted light amber .....6½@7
Beeswax per lb .....25@29

### Hay.

Arrivals of hay for the six days past have been 5150 tons. The continuation of these very heavy arrivals is beginning to be thoroughly felt on the market here. Prices during he week have not been maintained, as a lowering in figures all along the line has been necessary to effect the sale and removal of hay from the cars and boats.

The single exception to this general lowering of values has been in strictly fancy varieties. Arrivals of such choice hay have been very light, and what has come in has been readily placed at top figures.

Alfalfa hay continues to arrive in moderately large quantities, and appears to move off fairly well, although not actively. Prices on alfalfa hay continue about as they have been of late.

Arrivals of straw have not been large, alhough the demand throughout the week has been moderate, so what has been offered has met with fairly good sale.

This week's quotations are:
Choice wheat hay .....17.50@18.50
No 1 wheat or wheat & oat 16.00@17.00
No 2 wheat or wheat & oat 13.50@15.00
Choice tame oat .....16.00@17.00
Other tame oat .....12.00@14.00
New crop wild .....11.00@14.00
Stock hay .....8.50@9.00
Alfalfa .....10.00@14.00
Straw .....60@75

### Grains.

Wheat No. 1 .....1.80@1.85
Barley .....1.35@1.42½
Oats white .....1.80@1.90
Oats gray .....2.00@2.10
Rye new crop .....1.70@1.75
Corn Egyptain .....1.60@1.65
Corn Cal sm round .....1.80@1.82½
Alfalfa seed, Cal .....16@18
Mustard brown .....3¾@4½
Millet .....2½@3
Flaxseed .....4
Broom corn seed per ton .....23.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton .....39.00@40.00
Cracked corn per ton .....40.00@41.00
Rolled barley per ton .....31.00@32.00
Rolled oats per ton .....40.00@41.00
Oil cake meal per ton .....38.50@40.00
Cocoanut cake per ton .....25.00
Middlings .....36.00@37.50
Mixed feed per ton .....26.00@30.00
Shorts .....31.50@33.00

## Citrus Market

LOS ANGELES, August 18, 1909.

The orange market is materially better than for some time. The general range of quotations on desirable sizes and stock is at least fifteen cents bettre than a week ago. It is possible the sultry weather of the present over the Middle West may discourage prices, but the outlook is good for the continuation of the upward trend. Seedlings and others than Valencias are practicaly out of the market, which leaves the few yet to go a fairly free field. Off sizes and lower grade fruit are not desired as a rule and closer culling is being engaged in.

Lemons are strictly in good form. The excessively warm weather which may prove discouraging to the orange market, has given a great boost to lemons and all stock has been closely picked up. Some sales of first class goods have been made at $4.00 f.o.b. California points. $5.00 and $6.00 f.o.b. Eastern points has also been reported.

**Shipments.**

Total shipments of citrus fruits to date this season, 35,230 cars, of which there were 29,638 oranges, 5,592 lemons.

NEW YORK, Aug. 13.—Five cars oranges sold. Market is unchanged. Weather cool; raining.

| VALENCIAS— | Average. |
|---|---|
| Red Shield A-C-G Exchange | 2.40 |
| Green Crown A-C-G Exchange | 1.90 |
| Quail OK Exchange | 2.50 |
| Premium Benchley Fruit Co | 3.00 |
| Superior Benchley Fruit Co | 2.80 |
| Good Benchley Fruit Co | 2.45 |
| Old Mission C C Chapman | 3.45 |
| Golden Eagle C C Chapman | 2.65 |

GRAPEFRUIT—Old Mission, fancy $2.85; Golden Eagle $2.35.

ST. MICHAELS—Blue Globe $2.50; Red Globe $2.30; Blue Globe half boxes $1.35; Red Globe half boxes $1.20.

CLEVELAND, Aug. 13.—One car Valencias, one car mixed and one car lemons sold. Weather cool. Market unchanged, both oranges and lemons.

| VALENCIAS— | Average. |
|---|---|
| Searchlight Sunset Ex Orange | 2.65 |
| Sunset Sunset Ex Orange | 2.40 |
| LEMONS— | |
| Whittier Semi-Tropic Ex Whittier | 2.05 |
| Pico Semi-Tropic Ex Whittier | 1.50 |
| MEDITERRANEAN SWEETS— | |
| Queen Bee Queen Colony E Corona | 2.00 |
| Sunset Queen Colony Ex Corona | 1.85 |

BOSTON, Aug. 13.—Six cars sold. The weather is cool. Market firm on good fruit.

| VALENCIAS— | Average. |
|---|---|
| Homer Queen Colony Ex Corona | 2.40 |
| Fiesta Riverside Ex Pachappa Sta | 2.25 |
| Violet Duarte-Monrovia Ex Mon. | 2.65 |
| A-One E Peycke Co | 2 60 |
| Cambria T Strain | 1.75 |
| Puck Speich & Co | 1.25 |
| Family Queen Colony Ex Corona | 2.15 |
| Pond Lily-Riverside Ex Pachappa | 1.75 |
| Aurora E Peycke Co | 3.00 |
| Albion T Strain | 2.30 |
| Our Popular Speich & Co | 1.45 |

PHILADELPHIA, Aug. 13.—Two cars Valencias sold.

| VALENCIAS— | Average. |
|---|---|
| Crocus San Bernardino Ex Yerkes | 2.50 |
| Echo Semi-Tropic Ex Pasadena | 2.70 |
| Cosmos San Bernardino Ex Yerkes | 2.15 |

Arroyo Semi-Tropic Ex Pasadena ..2.55

NEW YORK, Aug. 16.—Fifteen cars oranges sold; market strong, slightly higher, weather unfavorable, raining, cool.

| VALENCIAS— | Average. |
|---|---|
| Old Mission CC Chapman | 3.75 |
| Golden Eagle CC Chapman | 2.80 |
| Lone Palm McG & Willard | 2.65 |
| Beach McG & Willard | 2.20 |
| Tourist Spence F Co | 1.95 |
| Premium Benchley F Co | 2.80 |
| Superior Benchley F Co | 2.55 |
| Buena R J Richardson | 2.60 |
| Mayflower R J Richardson | 3.15 |
| Orchard National O Co | 3.00 |
| Standard National O Co | 2.45 |
| Carnation M & G Co | 3.00 |
| Daisy H & G Co | 2.35 |
| Chapman A C Denman Sons | 2.70 |
| Climax E Peycke Co | 2.30 |
| Red Shield ACG Ex | 2.50 |
| Green Crown ACG Ex | 2.15 |
| La Mesa Riv Ex Riv | 2.65 |
| Golden Rule Riv Ex | 2.35 |
| Golden Riv Ex Riv | 2.10 |
| Vista Bonita A F Hemet | 4.05 |
| Lake Hemet A F Hemet | 3.20 |
| Mission Indian A F Hemet | 2.10 |
| Blue Globe Riv Ex Riv | 2.95 |
| Red Globe Riv Ex Riv | 2.25 |
| Security St Ex | 2.50 |
| Titus Ranch San Marino GPA | 2.50 |
| El Toreador San Marino GPA | 1.95 |

ST. MICHAELS—Red Mtn $2.30; Blue Globe $2.50; Red Globe $2.40; Halves—Blue Globe $1.35; Red Globe $1.25. Grapefruit—Champion $1.00; Old Mission $2.80 Orchard Halves $1.25.

CINCINNATI, Aug. 16.—Hot and muggy. Two cars oranges, 2 cars lemons sold.

| VALENCIAS— | |
|---|---|
| Searchlight SS Orange | 2.15 |
| Pico Whittier | 2.25 |
| LEMONS— | |
| Arab SA Ex | 3.10 |
| Blue Jay OK Ex | 1.80 |
| Duck SA Ex | 2.55 |
| Eagle OK Ex | 1.45 |

PITTSBURG, Aug. 16.—Six cars sold. Very steady, both oranges and lemons. Warm.

| VALENCIAS— | Average. |
|---|---|
| Hawk SA Exchange | 2.20 |
| Echo ST Pasadena | 2.80 |
| Mountain Crest SA Exchange | 2.15 |
| Pico ST Whittier | 2.50 |
| Arroyo ST Pasadena | 2.50 |
| LEMONS— | |
| Stock Label OK Exchange | 2.30 |
| O I C QC Corona | 1.90 |
| Owl O KExchange | 2.30 |

PHILADELPHIA, Aug. 16.—Five cars Valencias, one mixed car sold.

| VALENCIAS— | Average. |
|---|---|
| Security ST Nordhoff | 2.35 |
| Pointer ACG Glendora | 2.75 |
| Climax E Peycke Co | 2.15 |
| Stag ACG Glendora | 3.50 |
| Aurora E Peycke Co | 2.70 |
| Pansy Colton OG Assn | 2.25 |
| SWEETS— | |
| Golden Scepter | 1.80 |
| GRAPEFRUIT— | |
| Golden Scepter | 1.60 |

CLEVELAND, Aug. 16.—Three cars Valencias, two lemons sold. Market is higher on Valencias. Prices low on lemons on account of the quality and condition. Raining.

| VALENCIAS— | Average. |
|---|---|
| Quality ST Nordhoff | 2.90 |
| Whittier ST Whittier | 2.45 |
| Ibex ST Rivera | 3.05 |
| Security ST Nordhoff | 2.40 |
| Pico ST Whittier | 2.20 |
| Rivera ST Rivera | 2.35 |
| LEMONS— | |
| Pico ST Whittier | 2.00 |
| Squirrel AH Prenda | 2.40 |
| Commercial AH Prenda | 1.05 |
| Picnic ST Whittier | 1.15 |
| Palm Tree AH Prenda | 1.55 |

BOSTON, Aug. 16.—Nine cars sold. Cool. Market firm on good stock.

| VALENCIAS— | Average. |
|---|---|
| Butterfly Covina Ex Covina | 2.45 |
| Echo ST Pasadena | 2.75 |
| California Orange Riverside E Riv | 1.90 |
| Pointer ACG Glendora | 3.15 |
| Standard National Orange Co | 2.55 |
| A-1 E Peycke Co | 2.40 |
| Old Oaken Bucket Covina Ex | 1.90 |
| Arroyo ST Pasadena | 2.05 |
| Stag ACG Glendora | 3.95 |
| Orchard National Orange Co | 3.15 |
| Aurora E Peycke Co | 3.10 |
| Climax E Peycke Co | 2.05 |
| LEMONS— | |
| Arab SA Exchange | 1.95 |
| Duck SA Exchange | 80 |
| Greyhound SA Exchange | 1.20 |
| Silence Flagler Fruit Co | 1.65 |
| SWEETS— | |
| Red Globe | 1.90 |

ST. LOUIS, Aug. 16.—Hot and muggy. Market strong on Valencias. Firm on good stock lemons, Six cars sold.

| VALENCIAS— | Average. |
|---|---|
| Volunteer SA Exchange | 3.00 |
| Greyhound SA Exchange | 2.50 |
| LEMONS— | |
| O I C QC Exchange Corona | 1.55 |
| Coyote OK Exchange | 2.25 |
| Duck SA Exchange | 2.60 |
| Blue Jay OK Exchange | 1.50 |
| Arab SA Exchange | 3.05 |
| Green Crown ACG Azusa | 3.00 |

## EXPERIMENTAL FARMING IN NEVADA.

Through the construction of large storage reservoirs and irrigation works, the United States Reclamation Service is preparing for agricultural usefulness large areas of land in the arid regions of the West. As these lands are largely taken up by settlers from the older States farther east who know little or nothing about the difficulties they will have to meet, the Reclamation Service some time ago called on the United States Department of Agriculture to establish experiment farms to assist in working out the problems involved in these new conditions. A number of such farms have been established, and it appears that the results of this experimental work will be of great value.

One of these irrigation schemes, known as the Truckee-Carson Project, is located in western Nevada, and covers 350,000 acres of irrigable land lying along or near the main line of the Southern Pacific Railway which runs from Ogden to San Francisco. The mining towns and camps of this region furnish an excellent market for all kinds of farm products, especially vegetables and hay. Alfalfa, cereals, and many vegetables and fruits can be successfully grown. But the peculiarities of the desert soils, and especially their lack of organic matter, make farming on these soils a difficult task for the inexperienced settler.

The Truckee-Carson Experiment Farm was established on a tract of desert land near Fallon, Nev., in the fall of 1906, the United States Department of Agriculture and the Nevada State Experiment Station being cooperators in its management. Experiments in crop growing were begun in 1907, and the operations have been greatly enlarged since. Considerable progress has been made in discovering the crops and methods best adapted to the conditions, and the results secured have just been given to the public in a bulletin of the United States Department of Agriculture. In fact, however, the experimental work on this project has only fairly begun, and it will take several years to fully determine the field and garden crops and the fruits which can be most profitably cultivated and the best methods of soil management.

The Imperial Standard calls for a halt in the booming of cotton as an immensely profitable crop in Imperial Valley. It maintains that while the growing of cotton has been successfully demonstrated, its gathering in a large way at a figure that will permit profit to the grower is yet to be shown.

## QUERIES.

(Continued from Page 187.)

of years and then let her be beefed than to subject her to so much suffering each time she freshens. The preventive treatment consists in reducing the cow's condition before she calves. Cut off all grain for the last two months, the last week give her hay only and only as much as she will promptly eat up clean, at a feed twice a day. Then give her a dose of salts so as to have the bowels freely opened before she calves. One and a half pounds of Epsom salts with a couple of tablespoonfuls of powdered ginger and a tablespoonful of saltpetre. Give with it water enough to make a half gallon. If this comes in within twenty-four hours of calving time, all right. After she calves put on a light blanket and keep her out of drafts. Feed her lightly on bran and alfalfa hay. Now comes the most important part of all, avoid milking her out clean for forty-eight hours. Milk only a quart or so often, at least every eight hours, imitate the calf by not emptying the udder all at once. In the Channel Island the Jersey cattle at home never have milk fever while the same cows did have it in the United States, before this simple little rule was found out. The object in giving the physic is to help along as this cow has had the trouble, and cannot be considered as a normal subject.—M. E. S.

### Eucalyptus for Moist Land.

I have a piece of land on which the water stands up to April or May. Is there a variety of gum trees which will grow in such land and can stand frost? It freezes quite hard on this particular land.—J. K. G.

Your conditions might possibly be favorable to the botryoides or swamp mahogany, sometimes called in Australia bastard mahogany. It possibly will not stand the degree of cold you have. This variety has done well at the experiment station at Santa Monica. Mr. Ingraham, in Bulletin 196 of the State University, says "This species is considered by Australian writers one of the best of the eucalypti when grown where there is plenty of water. One tree at the station has reached a height of 38 feet in six years.

### Trespassing Chickens.

Has a neighbor a right to let his chickens run loose so that they damage another's grapes and other fruits? Is the damaged party allowed to kill the chickens if they are permitted to continue their depredations after owner has been requested to keep them at home?—M., El Cajon.

This query has been answered by Mr. Payne to the effect that stray stock of all kinds may be taken up and kept until claimed by owner when a reasonable charge may be made for its keep. Legally there is no right accorded to kill another's stock. See answer to "Poisoning Chickens" in issue of May 27th. Of course if any damage results from the trespass you have cause for action and can collect.

### Peach Pits.

What is the best variety of peaches to select pits from for nursery purposes?—J. M. R., Moorpark.

The best variety of peach for propagating purposes is any kind of thrifty growing seedling. Some nurserymen go so far as to send to North Carolina to the old seedling peach orchards there for pits as it is practically impossible to secure them in California. On the other hand, many nurserymen simply go to the canneries and scoop up the pits. These will give a reasonable percentage of strong growing trees, but they will not be so uniformly thrifty as seedling pits.

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**352 Market Street San Francisco**


### Weevils in Beans.

What will keep weevils out of beans and other seed that is stored away?—V. A. Broadbent, Anaheim.

See answer to query, "Weevils in Beans" in our issue of August 5.

### Morning Glory.

I have a patch of wild morning glory on my place. I plowed it last summer expecting to kill it, but it only seemed to stimulate the growth. It is now thicker and spread over more ground.—F. T., Los Olivos.

See article on first page of this week's issue. Do not think that one or two or even a dozen plowings will eradicate this pest. It is a question for eternal viligance.

## ALFALFA AS A SOILING CROP.

The readiness with which alfalfa renews its growth after each cutting, as well as its value as a feed, makes it an ideal soiling plant for all classes of stock. There is practically no danger from bloat, as is the case when the alfalfa is pastured. The field from which the daily cuttings of green feed are taken should be large enough to be cut over in four or five weeks, as under such conditions the part of the field first cut will be ready for the second cutting by the time the first crop is entirely utilized.

Afalfa is very long-lived; fields in Mexico, it is claimed, have been continuously productive without replanting for over two hundred years, and others in France are known to have flourished for more than a century. Its usual life in the United States is probably from ten to twenty-five years, although there is a field in New York that has been mown successively for over sixty years. It is not unlikely that under its normal conditions and with normal care it would well-nigh be, as it is called, everlasting.—Coburn's "The Book of Alfalfa."

Many sections of the San Joaquin Valley find potatoes begging at six bits a sack.

The farmers union at Turlock has shipped 120 cars of watermelons.

From the Baker Mfg. Co., who manufacture the Twentieth Century Grader, we have received copy of their new irrigation folder headed, "Dollars in The Ditch." They will be glad to send the folder to anyone who will drop them a postal card with request for same. Their address is Fisher Bldg., Chicago, Ill.

60 H. P. Western Pumping Plant

# A Frequent Mistake

made by engine buyers is to suppose that one engine is as good as another, the only difference being in the price. Certainly, many engines can be bought for less money than the WESTERN and this fact sometimes leads the prospective purchaser to the conclusion that to buy a low-priced engine will be an economy. This is not so. The one essential of an economical engine is that it shall give the maximum service for the minimum expenditure. If it is cheapened to a point where it fails to do this, **any** money put into it is an extravagance.

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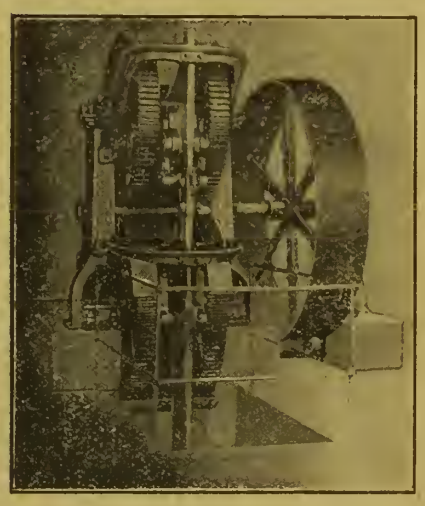

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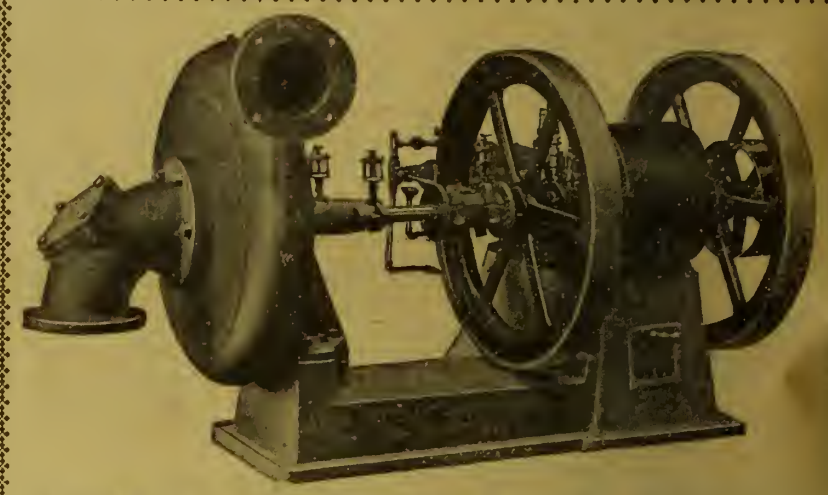

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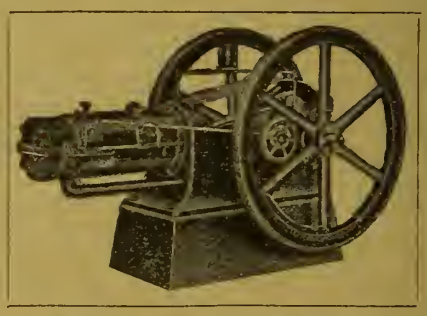

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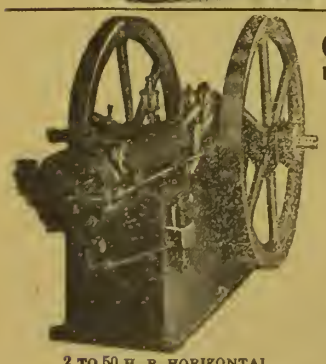

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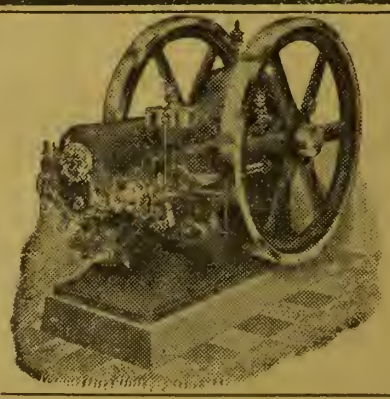

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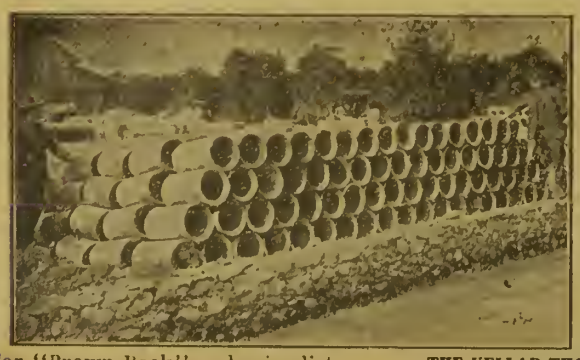


From photograph showing amount of

## Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

## "K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

**THE KELLAR-THOMASON MFG. CO., Covina, Cal**

# Second Hand Irrigating Plants

Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

## Western Machinery Company

**230 Main Street, San Francisco, Cal.**

# California Cultivator

Published Weekly — One Dollar a Year

Los Angeles — August 26, 1909 — San Francisco


# Copa de Oro -- the Cup of Gol

## The State Flower of California

COPA DE ORO,—cup of gold—no fitter name than this one given by the poetical Spanish-Californians, could have been found for the golden poppy, whose lustrous petals truly rival in hue the precious metal dug so freely from our California soil. A royal flower, dauntlessly gazing into the eye of the sun as it courts his warmest caresses, and abounding with vitality and life, the California poppy was well chosen as the emblem of a State noted for the aggressive activity of her sons and beauty of her daughters.

It is a most beautiful sight in spring and early summer to see whole hillsides aflame with this lovely flower, looking as though a carpet of gold had been spread on the earth. But it is not only in the spring that the Eschscholtzia blossoms—there is scarcely a month in the year when gold cups may not be found springing up from its spreading bunch of pale-green, finely dissected leaves.

Many artists have essayed to paint this wondrous blossom but few have done it justice, and the photographer's difficulties are even greater than those of the man of pigment and brush, for though he may faithfully reproduce its beautiful form, he cannot hope to render its gorgeous coloring.

Though the large red-gold cup is the most widely distributed throughout the State and may be considered as **the** California poppy, there are several other varieties of the Eschscholtzia, varying from the deepest orange to a yellow so pale as to be only a shade moved from white.

The large orange poppy flourishes well on the foothills and inland slopes, but rarely to be found near the sea. Just above the University at Berkeley, the writer has gathered some extremely handsome blossoms. Unlike its smaller sisters, the whole flower is of one tone—petals, pistil, and the velvet covered stamens—rich, deep, red-gold.

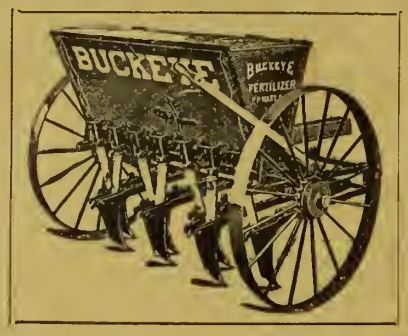
The Eschscholtzia is useful as well as beautiful. In the olden day its leaves were used by the Indians as a vegetable. A mild drug is extracted from it which is valued as a remedy in certain disorders. The Spanish-Californians make a preparation from the **copa de oro** in conjunction with oil, which they esteem highly as a dressing for hair, whose growth it is said to promote, making it glossy and luxuriant. Certain it is that the senoras and senoritas usually have magnificent tresses. The rarest of all the varieties is the one popularly known as the white poppy. In reality, however, it is not white, but a very pale lemon color.—Outwest Magazine.

For use in orange groves and vineyards there is nothing better than the

# Buckeye Fertilizer Drill

Set of plates furnished **FREE** with each new drill, if desired,

**For Sowing Vetch and Peas**




We have sold a great many carloads of these drills in Southern California and the Buckeye is now recognized by orange growers and fertilizer men as the best drill made for handling commercial fertilizer. Its low wheels, proper sized box, and large feed openings giving great capacity when desired, make it especialy adapted to orchard use.

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**224-228 South Los Angeles St., Los Angeles, Cal.**

Wagons, Carriages, Harness, Farm Implements of all kinds

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**INC.**

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**LOS ANGELES, CAL.**

**HEADQUARTERS FOR**

Sulphuric Acid (Fumigating)
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**SEND US YOUR ORDERS**

We tell you to put on a "Pioneer Roof," and forget it. Needs no paint or repairs. Sun proof and rain proof. Not affected by extremes of heat or cold. Suitable for all kinds of buildings—pitched or flat roofs. Comes in handy rolls. Easy to lay—anybody can do it—no special tools needed.

**Now then—Let us send you samples, a copy of our 32-page Roofing Booklet and name of our nearest agent.**

**PIONEER ROLL PAPER COMPANY**

**DEPARTMENT 11-F LOS ANGELES, CALIFORNIA**

# The Hercules

**Vertical and Horizontal Engines**

**Gas, Distillate. All Sizes. Write for Prices and Terms.**

# The Krogh

**Centrifugal Pumps. All Sizes and Styles.**

**Vertical Horizontal**

Have an entire pumping plant that is strictly guaranteed, and one that will give satisfaction and is good for nearly a life time with practically no costs for repairs.

More water, more economical, less fuel, less expense, more power. You do not have to spend your life's income for repairs, as this machinery is made from the very best material and workmanship that money can procure. Every piece of machinery thoroughly tried and tested before it leaves the factory.

I am the agent for Southern California, for this machinery, and for the next 60 or 90 days I am giving 10 per cent off of the regular selling prices of the Hercules engine and Krogh pumps, in order to give the public a chance to buy a substantial well made entire pumping plant very reasonable in price.

No irregular nor complicated parts to get out of repair at the very busiest season when you need the most water.

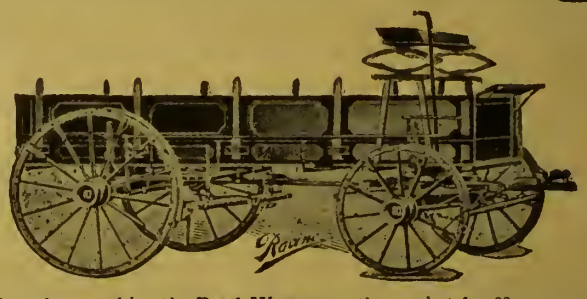
Ask your neighbor about the Hercules engine and the Krogh pumps and if he has ever used them he will recommend them to you every time, as every one or persons that has used any of this machinery is always willing and ready to give them the very highest of recommendations.

I will contract to install any of this machinery after the 1st of November either as a plant or pump or engine separate of any sized pump or engine.

For any other information, prices, terms, or catalogues, write to,

## W. L. KEITH, Thermal, Riverside Co., Cal.

# Racine Wagons



The Manufacturers of the

**Genuine Racine Wagon**

have been making the **Best Wagon** on the market for 60 years. For the past few years on account of the increase in the cost of the materials, they have lost money on every wagon turned out. In fact, they make too good a wagon to sell at the ordinary wagon price. A few weeks ago, they raised the price of **Racine Wagons,** ten per cent.

**We Bought Several Carloads Before the Raise**

And are selling them at the old price while the stock lasts.

**All Sizes and Prices In Stock**

**We Pay the Freight**

Write at once for prices and terms.

## Southwest Supply Co.

**The RACINE Line**

**127 South Los Angeles Street Los Angeles, Cal.**

# All Soils Alike to Wood Pipe

The heaviest adobe, the most corrosive alkali, the lightest sand; all alike where Wood Pipe is used.

**It Resists Them All**

Wood Saturated. Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High factor of Safety in Binding—Can't Leak.

Prices, specifications, hydraulic data and general information gladly furnished upon request.

**Continuous Stave Pipe. Machine Banded Stave Pipe**

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# SURFACE IRRIGATING PIPE

Made of a single sheet, 10 feet in length with heavy tapering end, and strong protector on large end. Made in all weights, by the latest improved machinery. The only way to irrigate alfalfa. Am Southern California Agent for Woodmanse Steel Windmill, complete line of repairs always in stock. Write for prices. **F. H. OSLER, Pom a, Cal.**

# California Cultivator

Vol. XXXIII—No. 9 Los Angeles, California, Thursday, August 26, 1909 Subscription $1 a Year

# Value of Wild Birds in Field and Forest

## An Address by Wm. L. Finley Before the National Irrigation Congress at Spokane August 11, 1909

WE ALL know that the real wealth of the country is based upon agriculture and horticulture. Without the help of our wild birds farming would be immpossible. No farm hands can accomplish the work intrusted to the birds. Wild birds of orchard, field, and forest are Nature's check upon the increase of insect life. With the great handicap of bird destruction in the present day, the loss from insect and rodent pests in the United States during the past year is estimated to be $800,000,000. This loss can be reduced only when a public sentiment is aroused for proper bird protection. The practical farmer cannot afford to ignore the relations which wild birds bear to his crops. They are a part of the natural resources of any farm. The farmer will prosper in proportion to the way he encourages these extra hands that Nature has given him.

While the value of the birds to the farmer, orchardist and planter has for year been recognized, it is believed by the authorities that their importance in preserving the forests is not generally known. According to a recent report of the government, insects alone cause an annual loss to the trees of the country estimated at over a hundred million dollars. On the oak alone 400 species of insects which are sought and consumed by the birds of the forest, prey constantly, the experts of the Biological survey have discovered. On the willow 186 such species constantly attempt its destruction, on the pine 165, on the hickory 170, on the birch 105 and on the elm 80. Careful analysis of the stomachs of thousands of wood-peckers, titmice, creepers, kinglets, wood warblers, wrens, fly-catchers, swallows, nut hatches and other birds of the woods show that their constant labor is to consume just these devasting insects.

Birds work more in conjunction to help him than any other form of outdoor life. They police the earth and air and without their services the farmer would be helpless. Larks, wrens and thrushes search the ground for grubs and insects. The food of the meadow lark consists of 75 per cent of injurious insects and twelve per cent of weed seed, showing that it is a bird of great economic value. Sparrows, finches and quail eat a large amount of weed seed. Practically all the food of the tree sparrow consists of seed. Examinations by Professor F. E. L. Beal of the Biological survey of the Department of Agriculture show that a single tree sparrow will eat a quarter of an ounce of weed seed daily. In a state the size of Iowa, tree sparrows alone will consume more than eight hundred tons of weed seed annually. This, with the work of other seed-eating birds, saves the farmer an immense amount of work. Nut hatches and chickadees scan every part of the trunks and limbs of trees for insect eggs.

The valuable service which birds render about the farm is shown most strikingly in places where insects and rodents have become so numerous as to destroy crops. Birds collect in such places where food is abundant and by giving their whole time to hunting and eating these insects, they become the most valuable assistants the farmer can have. To illustrate, a few years ago a large apple orchard in central Illinois was attacked by canker worms. Professor S. A. Forbes spent two seasons in this locality studying bird life. He examined the stomachs of 36 different species of birds and found that seventy-two per cent of these were eating canker worms. Taken as a whole, 36 per cent of the food of all the birds of the locality consisted of these worms. Out of a flock of 35 cedar waxwings, seven were killed and examined. With the exception of a few small beetles, these birds were living entirely on canker worms. By actual count, he found seventy to 101 worms in the stomachs of each one of these birds. If we assume that each waxwing ate a hundred worms a day, which is a very low estimate, the flock of 30 were destroying 3000 a day, or during the month when caterpillars were out, a flock of 30 waxwings would eat 90,000.

A number of years ago blackbirds were exceedingly abundant through eastern Nebraska. They were so plentiful that the farmers believed they were damaging crops. They began poisoning the birds. A single grain of corn soaked in strychnine was enough to kill a blackbird. In the years that followed, great numbers of these and other birds were destroyed during the spring and fall. At the same time thousands of quail, prairie chickens and other game birds were killed in every county to supply the market. As the birds began to disappear, swarms of locusts took their place. These insects hatched out in countless numbers and began devasting crops. Few fields of grain escaped damage. Many were entirely destroyed. Where blackbirds, quail, prairie chickens, plover and other birds remained, they took to living entirely on locusts. In such localities fair crops were secured solely through the assistance of the birds.

The members of the United States Entomological commission who witnessed the work accomplished by the birds in this region, said the results were so complete that it was impossible to entertain any doubt as to the value of birds as locust destroyers.

Years ago a hunter along the Massachusetts coast shot some terns and sent the plumage to a New York milliner. The tern is a bird that is sometimes called the sea-swallow or summer gull. Its plumage is as delicate as its flight is graceful. The long pointed wings and tails of these birds at once become stylish. 'Send more tern wings. We can pay cash for all you forward,' the telegram ran. Dealers in plumage immediately issued circulars asking for large quantities of terns and sea gulls. The demand kept running ahead of the supply. Up and down the Atlantic and Pacific Coast and through the country the word went forth.

Never had there been such a slaughter of birds in this country. Thousands of terns were killed along the coast of Massachusetts and at other breeding places. At Cobb's Island, Virginia, one of the baymen said 1400 terns were killed in a single day and 40,000 were shot during the summer. The destruction at other places was equally great. In two or three seasons the killing of these breeding birds had its effect. These well known bird colonies were a thing of the past.

One can get an idea of the slaughter of one species of tern by glancing at the records of the feather sale at the Commercial Sales Rooms in London on April 14, 1908, when one shipment of over 14,000 sooty terns was catalogued. Again at the sale on June 10, 15,500 more skins of this same species were on sale. This means that professional plume hunters had found and raided new breeding places of this species and practically every bird had been killed. This is but one example.

Years ago great flocks of gulls and terns added life and interest to our sandy shores. White herons flocked through swamps and everglades of the southern states; the great tule marshes of the West were white with the nesting multitude. In those halycon days men would have scoffed if you had said these birds, so strong in numbers, could have been destroyed. They were so harmless to mankind that at that time no one could think of a cause that might lead to their extermination. There was no cause except their marvelous beauty. Yet in less than a quarter of a century some of the plume birds nave all but taken their places with vanished races.

Although the decrease of bird numbers has been so marked in our country, it has been more deplorable in other lands. The demands for plumage of wild birds have been growing. All through the tropical countries natives were eagerly looking for an easy means of livelihood. Killing all kinds of birds has opened the way. Thousands of Indians and negroes have been supplied with guns and ammunition by traders. Everywhere they are roaming through the forests and swamps, seeking the last individuals of the species that are left. Many a rare and beautiful bird has been slaughtered beyond recovery. As the plumage of these birds has become scarce prices have soared higher and higher. But the money has been ready. So the natives have sought farther and harder to lay low the last plume bearer.

What will come of it all, this slaughter of the birds? If those plumes were only answering some real need,—but they are for decoration only. As yet no person has ever offered a single logical reason for this destruction, yet there are many reasons against it. The property of all nations must depend to a large extent upon agricultural pursuits. The dangers to agriculture from insects pests are well known. Wild birds are nature's check against the swarms of insect life. With our bird numbers so rapidly decreasing the balance of nature is bound to be affected. Our wild birds are as much a part of the natural resources of the country as are the forests and streams. For our own prosperity we should not permit these resources to be ravaged. Saving our wild birds is a debt we owe, not only to ourselves, but what is of more importance, we are in duty bound to transmit this inheritance to our children.

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During the eleven months ended May 31, 1909, the United States imported 8,240,720 bushels of potatoes and exported 715,648 bushels; last year during the same period imports were 333,005 bushels, exports 1,164,136 bushels.

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Imports of oats into the United States during the eleven months ended May 31, 1909, were 6,425,186 bushels, exports in the same period 1,487,967 bushels; during the corresponding period last year imports were 361,256 bushels, exports, 1,123,456 bushels.

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The Cuban orange crop of 1908 was a record one, aggregating nearly a half million crates; the pineapple crop amounted to approximately 1,000,000 crates nearly all of which was shipped to New York.

There's **only one Spreader** that has had a **test of over 30 years.** It is up to you to say whether you will invest your money in that machine or some other.

**The 31-Year-Old Success Spreader**

has proven itself on tens of thousands of farms. It has worked under all conditions. It has had all kinds of handling. It has a **record for good work, right working and durability** that is not approached by any other spreader. It is **the one roller-bearing spreader**—chain driven, **free from gear wheels,** least friction, least breakage, lightest draft, strongest. Equipped with either wooden or metal wheels as desired. You might as well have the Success Spreader. **Get all the facts** and you will buy no other. Catalog Free.

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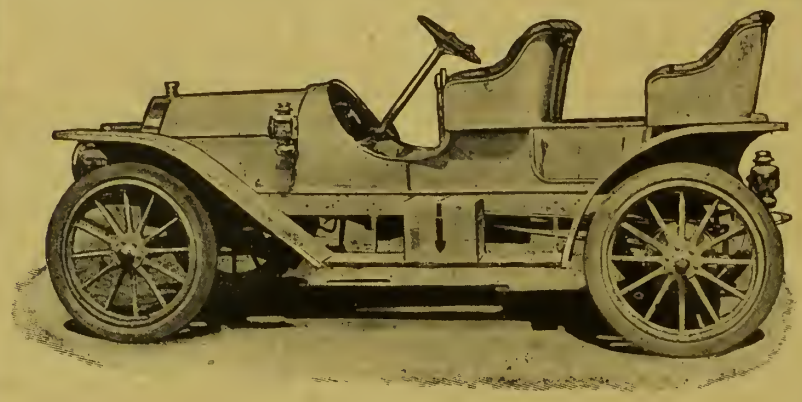

Made in California. Will Climb any mountain grade or sandy road. Write the factory direct. We can save you money in first cost and in cost of operation.

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**CYANIDE** guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

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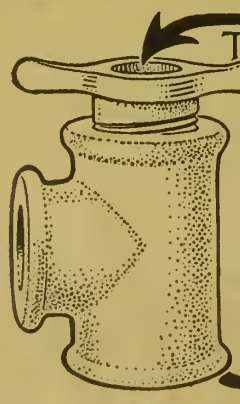
**HAAS BARUCH & CO., " "**



**The Tee Irrigating Valve**

Simple in design and construction, costs less and will last longer than any other on the market.
The Tee Irrigating Valve is made of an ordinary malleable iron T with a brass plug. It is designed for those who want an inexpensive irrigating valve, especially where such valves are needed in large quantities.
There is nothing to get out of order. It is so simple you will wonder why it was never thought of before.
A ½-inch valve sent post paid upon receipt of 40 cents. Quantity price, circular and full information upon request.
Address **George C. Roeding, Fresno, California**

**A Handy Little Engine**

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

**The Little Wonder**

Write or call on

**Wm. Gregory**
**602 No. Main St. Los Angeles, Cal.**


# With the Citrus Growers

### A DESIRABLE NEW FRUIT.

THE greatest of all newly introduced plants we are sure is the Feijoa Sellowiana, a beautiful evergreen shrub, producing a profusion of charming flowers which later give way to the most delicious and aromatic fruit known. Unlike the Avocado, every one will relish the flavor of the Feijoa which can not be compared with any fruit known. In analyzing the taste, one detects the flavor of the pineapple, raspberry and banana. There is just enough acid in it to give it snap and insure its cooking qualities. For an all around useful fruit it can only be compared to the apple, being most delicious when in the fresh state, stewed, preserved or made into pies. The fruit is so highly aromatic that a small dish of ripe specimens would fill a room with perfume.

The writer predicts that at no distant date the Feijoa will be used to flavor fine confections and delicacies. The plant is a medium sized shrub, with light green foliage, the under side of which is silvery gray. It has proven to be more hardy than the guava and quite as heavy a producer.

From a statement by the Department of Agriculture it was first discovered growing in Uruguay in 1894. The first plants were produced on the Pacific coast by Dr. Franceschi of Santa Barbara about eight years ago. One of these found its way to Altadena, a suburb of Pasadena, and this bush has been producing quite heavy crops for the past four years to the writer's personal knowledge.

The plant flowers in May and June and like the fruit, the blossom cannot be compared to any other flower. There are usually from five to six petals of a heavy waxy substance, pure white on the under side and shaded from crimson to purple on the upper side. The feature of the flower is the great tuft of bright crimson stamens surmounted by yellow anthers. It has been discovered that the waxy petals are delicious to the taste and a fruit salad made of them would be a dish for the gods.

The plant responds to good culture and begins bearing in from two to three years after planting. The fruit does not ripen on the plant, but will fall when fully mature and ripens in from five to ten days.

For shipment East it will be one of the most successful as it will easily keep for three weeks after maturity. Ordinarily the fruit matures from the middle of November to the middle of December. Coming in as it does, when other fresh fruit is getting scarce it is bound to be popular.

The writer has been a great enthusiast on the possibilities of this fruit from the time he first saw it four years ago, but to satisfy himself he conducted a test last fall that has proven beyond peradventure the hold it will take on the populace. Out of forty persons, men, women and children tasting it, thirty-nine were most enthusiastic in its praises. The fortieth man admitted that it was good, but felt sure there were other fruits as good or better.

Summing up, the Feijoa is a most beautiful ornamental shrub when not in flower, a charming flowering shrub that would grace any collection of plants, and last but not least a plant that will supply a great quantity of superior fruit to be eaten fresh or preserved for later use. While the fruit somewhat resembles the guava in shape, it is very unlike it in the fact that the seeds are so small as not to be noticed at all.—Pacific Garden.

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### AIR FOR THE ROOTS.

Under the title of "Air in the Soil and Air for the Roots," there appeared in the California Cultivator of July 29th a reprint of a bulletin of the Florida Agricultural Experiment Station, which in a few innocent looking sentences has hidden revelations of such magnitude as to set our views of the terrestrial economy of life upon an entirely new order. If the propositions of its author come only half true, then all our conceptions of natural philosophy elaborated through centuries of toil and honest effort would be shattered to the winds and life itself on this globe would have to come to a speedy end, through no fault of ours. Things look serious indeed, so let us see. Here are the sentences:

"We may forget that roots breathe the same as the other parts of the plants. They obtain oxygen from the air and throw off carbon dioxide gas. The spaces that occur between the soil particles are filled with water. Nearly all our farm crops except rice would perish in a waterlogged soil, but as the water is removed, air comes in to occupy the spaces that were filled with water and the soil improves. And the advantage which the soil obtains from rain and irrigation is by putting the air in motion."

There we are: The leading idea that pervades this bulletin is the hallucination of the author's mind that roots breathe, like the other parts of the plant. Beset by this fallacy he works out a string of propositions which would be nice enough if the premises were right. But this is not all. While pretending that he knows that the roots breathe, he also tells us what they breathe. He says that their breathing, like the rest of the plants, consists of taking in oxygen and throwing off carbon dioxide. There is where the calamity howl comes in. For if the bulletin is right we are lost. So far we have been left to believe that the Creator adjusted the matter of breathing between the vegetable and the animal world to such a nicety that each takes in what the other throws off, a sort of balanced trade between them with the atmosphere as the clearing-house. The object of the roots is primarily to give the plants a safe anchorage, and when this is not wanted then such plants have no roots. The function of the roots is solely to provide the plant with moisture and incidentally with the mineral ingredients which the plant needs and finds dissolved in the moisture taken up by the roots.

The chemistry of plant breathing, according to the undisputed teaching of our text books on botany consists in the absorption of carbon dioxide while oxygen is produced and emitted. Our bulletin has it the other way, but we see no reason why we should just now change all of our botany books to conform to that mode.—Ad. Tsheppe, Whittier.

The above quotation is only a part of a communication received from a

valued subscriber at Whittier. In addition the writer referred to the fact that willows grow only along running streams with roots constantly in water also to marine plants constantly under water.

Both plants must have oxygen to live. A fish must have oxygen to live though it secures it from water instead of from air.

Another portion which we have omitted from Mr. Tsheppe's letter is a description of the functions of leaves in breathing and their absorption of carbon-dioxide and releasing of oxygen and the reversal of this process at night. On this point we believe there is no dispute.

Now, as to the author of the experiment station Bulletin, who is Mr. B. F. Floyd of Florida, being wrong we quote as follows from Mr. J. V. Osterhout in Bailey's Cyclopedia of American Agriculture.

"Every living cell must have a constant supply of oxygen in order to exist. The stem sometimes suffers by applications of tar which shut out the air. The roots commonly suffer and often are killed by being deprived of air. This happens when the soil is too wet or when a hard crust is allowed to form on the surface. For the same reason, paving sidewalks or covering the roots deeply with soil may be injurious. When the surface of the soil is loose and sufficiently dry, a circulation of air is kept up within the soil by constant changes in barometric pressure. When this is prevented the soil becomes sour and unfit for plants, and the chemical processes that make food available to the plants are checked. Roots may grow in running water, which constantly renews the supply of dissolved air. Some roots can live in mud, but they are supplied with air by way of the leaves and large air passages in the stems; they are specially adapted to such environment. It is therefore of the utmost importance to maintain a loose, open texture in the soil by proper tillage, to ensure the health and vigor of most agricultural plants."

An additional authority, John M. Coulter, A. M., Ph. D., Head Professor of Botany of University of Chicago says in his book "Plant Relations." During the day, carbon dioxide and oxygen are both being absorbed and envolved. It will also be noted that the taking in of oxygen and the giving out of carbon dioxide is just the sort of exchange which takes place in our own respiration. In fact this process is also called respiration in plants. It does not depend upon light, for it goes on in the dark. It does not depend upon chlorophyll, for it goes on in the plants and parts of plants which are not green. It is not peculiar to leaves, but goes on in every living part of the plant. A process which goes on without interruption in all living plants and animals must be very closely related to their living. We conclude, therefore, that respiration is necessary to all plants in all conditions, and that when it ceases life must soon cease. The fact is, respiration supplies the energy which enables the living substance to work.

"Once it was thought that plants differ from animals in the fact that plants absorb carbon dioxide and give off oxygen, while animals absorb oxygen and give off carbon dioxide. It is seen now that there is no difference, but that respiration (absorption of oxygen and evolution of carbon dioxide) is common to both plants and animals. The difference is that green plants have the added work of photosynthesis."

If our subscriber still doubts these conclusions let him take a valuable orange tree, surround it with a dyke at the outer extremities of the roots and fill with pool of water and keep filled for a month, thus depriving the roots of the tree of air. If the function of the root is solely to anchor the tree and supply moisture such a condition would be ideal. But as a matter of fact the tree would be dead from suffication—lack of air at the roots.

## SUCCESS IN FLORIDA.

Writing of co-operative fruit marketing the Florida Fruit and Produce News says:

It is idle to ask, Will the Citrus Exchange be a success? No one who was present at that remarkable gathering of orange growers which filled the Tampa Bay Casino to overflowing Thursday can have the least doubt as to the achievement of the most sanguine hopes in Florida next season.

There was a feeling of confidence that embued the whole assemblage, a cheerful expression on every counte nance; a spirit of hope that bouyed up every heart, an unusual warmth in the welcoming hand-clasp, a mute expression of brotherly sympathy of which everyone appeared to be conscious, and to which each one responded.

Psychologists might explain this—we simply record the fact—it was there and it was all-pervading.

Every sensitive soul felt that success was in the air, and even those who held back from committing themselves, did so reluctantly. A few unfortunately had prematurely tied themselves up and couldn't come into the game, however much they wanted to do so.

But let no one think that with the officers elected and the agents chosen there is nothing more to do. There is a great deal yet remaining to be done in the matter of organizing the local units, and in this work all can have a part. You who have signed the agreement declared in doing so that you would use your best efforts to organize an association in your vicinity and to bring your neighbors into the light. You can take a copy of the agreement you yourself signed and read it to your neighbor who was not so fortunate as you were in getting at the convention all the wonderful facts so graphically pictured to you by Mr. Reid and Mr. Burton

You who have studied the question and have learned from these experienced men what has been accomplished in California by men situated at one time even worse than you ever were, cannot do your friend and neighbor a better service than to impart some of this knowledge to him.

Freely you have received, freely give. A campaign of education is now before you. Do your part, live up to your light and thus help to make the first year of the Florida Citrus Exchange a notable success and a lasting benefit to our whole state.

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Some of the farmers of Stanislaus county are contemplating removal of fruit trees and replacing with alfalfa.

---

Property owners at Oakdale, Stanislaus county, are forming a new irrigation district under the Wright Act.

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**HYDRATED LIME**

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3 parts best Resublimed Flowers Sulphur ..... mixed in a common mortar box

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Sulphur alone is too strong and does damage by burning. Hydrated lime remedies this and is the ideal diluent and vehicle for the sulphur—and reduces the cost.

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L. C. Rice, Tropico, Cal.
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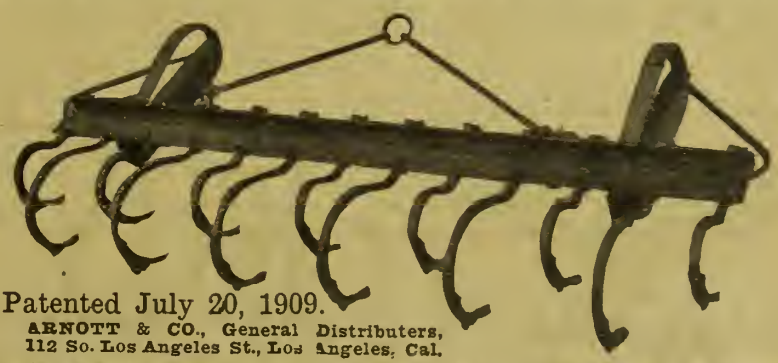

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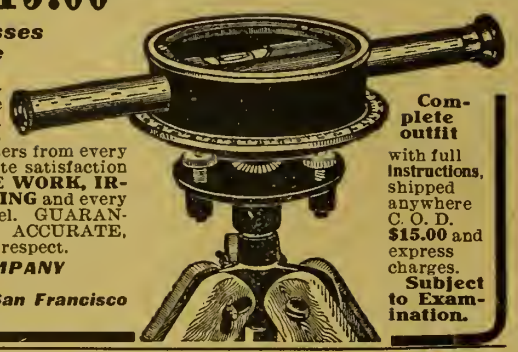

enables you to read Target at a distance of over 400 yards, therefore the problem of a FARM LEVEL with TELESCOPE at moderate cost has at last been solved. Voluntary letters from every State in the Union show the complete satisfaction it gives for all kinds of **DRAINAGE WORK, IRRIGATION, DITCHING, TERRACING** and every sort of farm work requiring a Level. GUARANTEED to be absolutely SIMPLE, ACCURATE, DURABLE and dependable in every respect.

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# Deciduous Fruit Culture

By J. W. Mills

## EXTENT AND BASES OF ORCHARD FERTILIZATION.

IN the country as a whole, orchard fertilization is not being neglected. The last census shows that the size of the orchard-fertilization bill is about $2,000,000 per year, according to report of the Pennsylvania State Experiment Station. Fruit farms expended 30c per acre for fertilizers compared with 4c on hay and grain farms and 2c per acre on stock farms. Whether this expenditure is being wisely made or whether it is sufficient is the question. At the present time, we have no exact system of orchard fertilization and little accurate data upon which one may be based.

The systems of fertilization now in operation or recommended are based on four things: (1) analysis of trees and their crops; (2) general experience and observation; (3) orchard surveys; and (4) experimental studies. Each has its strong and its weak points. For example, analyses show that an acre of bearing apple trees takes up about 55 lbs. of potash per year. But the fact that they have this potash does not prove either that they must have it or that its addition to the soil would secure any material response. Indeed, the same analyses show the annual possession by the trees of 57 pounds of lime per acre, and yet lime is not generally considered important in orchard fertilization.

The necessity then for experimental work and close observation on the part of every orchardist is self-evident.

## BAGGING GRAPES.

When grapes are bagged at an early stage there is hardly any work in the fruit line that pays better. It practically assures a perfect bunch. The time to bag them is just as soon as the flowering is over. Many insects and blights are not long in finding out a bunch of grapes, and though a week or two after flowering would be soon enough, in all probability, it is better to do the work as soon as the flowers fade. Almost every one is familiar with the length of a bunch of grapes, and in bagging, all one has to do is to place the bunch inside of a bag of sufficient length, give the mouth of the bag a folding or twisting together and then pin the mouth and the work is done, and the bunch is safe. The closing and fastening of the mouth of the bag exclude fungous germs and all insects, both of which pests destroy whole crops often when not molested.

When the fruit is taken from the bag it presents a beautiful appearance. The berries are covered with bloom, much more so than the best bunches which are produced without them. In many districts more grapes are destroyed by an insect that lays its eggs on the fruit, which later produce a maggot which destroys the berry. Usually such an attack is not confined to a berry or two, but takes every berry on a bunch. Bagging gets over all such trouble, and unless to preserve the foliage from blight, no spraying of any kind is required. The common paper bags, such as the grocers use, are quite good enough for bagging purposes.—Market Growers' Journal.

## MAKE EACH ORCHARD AN EXPERIMENT.

To increase their effectiveness, we urge all who are engaged in the production of fruit as a means of livelihood to adopt the experimental attitude and maintain some portions of their orchards for experimental work. It is self-evident that the best place to determine the crop-limiters of any particular orchard, and to develop and maintain a balanced treatment for it, is in the orchard itself. It is also evident that the surest method is to ask the trees.

This does not mean that one is to become the prey of every passing fancy which may be brought to his attention. But in most matters of importance in the management of an orchard there are two or more courses of action available, between which it is difficult to decide. After careful study of available evidence, he should choose, for the orchard as a whole, the course that in general seems best. But in a small section of the orchard he should carefully try out the other possible courses, side by side with the one chosen. This should be continued long enough to determine for his particular orchard which course of action is really best.

This applies to methods or materials of fertilization, pruning, spraying, soil management, varieties, and indeed to nearly all the essential factors of fruit production. The ideas gained from a knowledge of the methods and results of others will be helpful in formulating the plans of experiment as well as in choosing the course for the orchard as a whole.

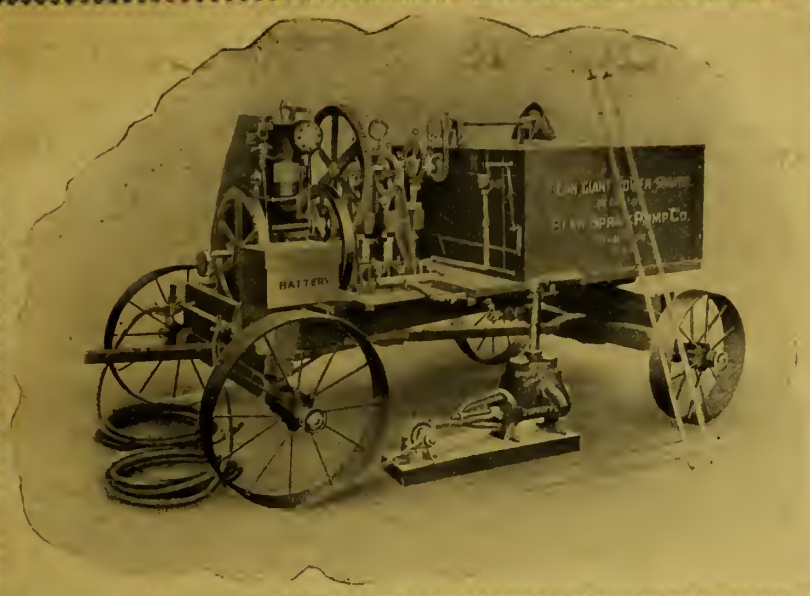
We believe that this course cannot fail to be of the greatest value to commercial orchardists. — Pennsylvania Ex. Sta. Bulletin.

## THE VIEW POINT.

In fruit production, there are several factors that are essential in securing maximum profits. They include location, climate, varieties, soil management, fertilization, pruning and spraying. Each must be right. Of those under man's control, no one can be singled out and made to carry the load of others left undone. Any one or part of one neglected may become the crop-limiter of that orchard and the extra care devoted to the others is lost. The truth of this principle is emphatically shown in figures which we have recently collected in a study of costs and profits in fruit-growing. These figures show that in the case of the apple net profits have actually increased with expenditures up to more than $300 per acre for producing and marketing the crop. Thus in fruit-growing as elsewhere one gets returns exactly in proportion to what he intelligently puts into it. To increase this intelligence, look into one of the most complex of these production-factors, orchard fertilization.

## JUDICIOUS SELECTION.

One great difficulty in our fruit sections has been too many varieties and not enough of one kind. Some varieties may excel others in a few points, yet in the aggregate cannot be called valuable commercially. Some varieties have little to recommend them save their recent origin or the reputation of the originator, or their



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Everything for Spraying

## Bean Spray Pump Company

**212 West Julian St., San Jose, Cal.**

peculiarities or wide divergence from tested standards. It would not seem to be a commendable plan to grow oddities and inferior fruits for the purpose of gain at the expense of the purchaser. Perhaps no one is more truly his brother's keeper than the nurseryman is the fruit grower's. Of course the demand makes the market, but fruit growers are learning to know and demand what is best. We should discourage the planting of varieties of fruit in localities not well adapted to make it valuable. If but one kind of fruit is found to succeed and do well in certain sections of the country, then encourage this specialty. By judiciously growing and recommending the best fruits as well as discouraging the propagation and distribution of inferior ones, we can in a measure shape the planting of our customers' orchards. If we encourage planters to set larger numbers of valuable varieties we are laying a good foundation for future business for ourselves. Others who see the success attending those who set their orchards to a few kinds of fruit, well selected, will be induced to do likewise, and thus the demand for nursery stock will be stimulated from year to year. On the other hand, if we encourage the planting of fruit of all varieties, without considering their value commercially or otherwise, disappointment is sure to come to the planter, and others will not be encouraged to engage in the business, but be driven out of it by these failures. Thus the demand for nursery stock will be decreased. No one engaged in the raising of stock, who is successful, retains inferior and worthless animals as being valuable, but rather is seeking to weed out the poor and produce only the best, that which will bring the largest returns to him. This plan is worthy of adoption by ourselves. We were quite favorably impressed with the advertising put out by one of our fellow nurserymen, in which he states he has no seedless apples, pitless plums or cobless corn to offer, simply the standard money making varieties which are giving satisfaction to all who plant them.—S. A. Miller before Pacific Coast Nurserymen.

### GREAT IS OUR FRUIT INDUSTRY.

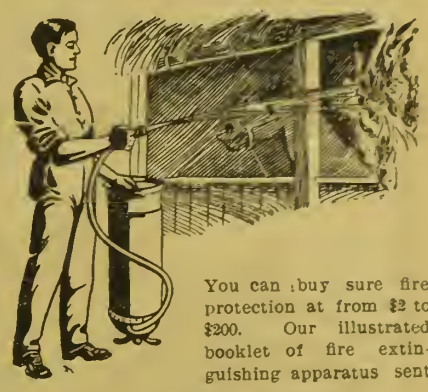
The computations of the State Board of Trade show that our output of all marketable products, including forest and mineral products, for 1908 had a value at current prices of $405,115,431, of which $95,012,747 was for fruits and fruit products shipped out of the State, including wine. Of the total value of our fruits and fruit products $23,545,400 was the product of citrus trees and $71,470,347 was from deciduous trees and vines. The amount received from the citrus groves was divided between the growers and those engaged in packing and shipping the fruit, while the sum received from other fruit products went in some part to those engaged in making wine, seeding raisins and canning fruits. It included also the value of the sugar used in canning. Evidently our fruit industries are far and away the most important industries of our State in that they produce the greatest value from a given area of land and afford employment to the greatest number of people. This computation includes only fruit and fruit products shipped out of the State, the estimated value of those sold in the cities of the State being $11,000,000 in addition, making the total value of fruit and fruit products shipped out of the State and sold at home considerably more than one-fourth of all our marketable products.

Next in value to our fruits among farm products is, of course, grain, of which we produced in 1908 to the value of $53,858,124, of which barley was considerably more than half, followed by hay to the amount of $32,229,883, and dairy products $25,224,150. Then follow in the order of importance vegetables, including canned vegetables, poultry, beet sugar and beans. The list of products which we produce on a commercial scale includes all the commercial products of any other state in the Union, except cotton, which is not enumerated, although its commercial production has begun in the Imperial valley. And, in addition to all these, there are the sub-tropical products which have made California so famous.

There is, of course, no other state in the Union which can approach California in the variety of its agricultural products—no other state in which farming is so "diversified," affording to all comers the opportunity to engage in whatever branches of agriculture they may prefer. And, one year with another, one branch is about as profitable as another. The large incomes from orchards represent large investments of capital and continuous labor expended throughout the year on small tracts. It is the glory of California that its climate, its varying soils and, in the north, its abundance of water lend themselves to intensive cultivation. It is only by intensive cultivation that the largest agricultural populations are sustained. There is no other state like California.—S. F. Chronicle.

An Imperial Valley Canal.

## SURE FIRE PROTECTION



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### NATIONAL NUT GROWERS.

The National Nut Growers Association will convene in annual session in Albany, Georgia, October 12, 13 and 14.

The application of lime to orchard land is often a matter of urgency. In addition to its being a plant food, lime is most important as a corrective of acidity. In heavy soils well supplied with humus and fairly drained and cultivated, fruit trees often fail to thrive, owing to a deficiency of lime. Rather frequent and light applications are preferable to the old plan of a heavy dressing about every five years. From three to five cwt. per acre, though some recommend 1500 or 2000 pounds, is a fair dressing for rich land deficient in lime. It should be applied in winter after the soil is plowed and be harrowed in, a freshly slaked and finely pulverized sample being most effective.

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may be alright "back East," but your down-to-date California rancher goes in for better things as for instance,

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# Live Stock and Dairy

By Mrs. Minna E. Sherman

**Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.**

## THE UDDER AND TEATS OF THE COW.

THE first flow of milk may bring severe swelling of the udder and after the usual remedies have been applied and the worst of the trouble is past, there may remain a hardened condition. These cases, have usually been treated by giving salts and fomenting the udder with hot water, the treatment not continued long enough and the trouble permitted to become chronic. This is usually the condition when the wife becomes annoyed with the milk in the house having strings and clots in it. The following liniment can be put up the by the druggist and has proven excellent for these troubles.

Tincture of Iodine 2 oz.
Tincture of Opium, 2oz.
Alcohol, 8 oz.

Give the cow half a pound of salts every night to keep the howels well opened and feed on dry feed to reduce the milk flow until the trouble is past. While these cases are quite curable, a portion of the milk flow will be lost until the cow again freshens.

**Sore teats.**

Where cows lie down in the mud or in their own excrement, the ends of the teats may become sore and form scabs. This is annoying as it makes the cows fretful, lessening the milk flow by the nervous tension. The feature of the disgusting nature of using milk that has passed over sores into the pail is another part of the story and is not considered here. We are now thinking only of the cow's side of the tale. This trouble is sometimes mistaken for cow pox as it seems to pass from cow to cow. The stables must be cleaned and disinfected carefully to prevent the cows from reinfecting themselves. Soak the ends of the teats in warm water and after removing the scabs paint the surface with tincture of iodine. After each milking wash them in warm water and apply a saturated solution of boric acid. When dry put on benzoated oxide of zinc ointment. Three days of careful treatment will cure this trouble.

**Warts.**

These are annoying and yet are easily removed. Those having long necks or pedicles may be removed by clipping them off one at a time with sharp scissors and then touching the spot with lunar caustic. Taking one each day after the morning milking on each teat will not make the teats sore. When the warts are broad at the base they may be covered, after washing them clean, with cold pressed castor oil. Another remedy is to apply to the clean teats, touching only the warts with a small brush dipped into the lotion:

Acetic acid, 4 grams.
Salicylic acid 4 grams.
Spirits of ether 3 grams.
Collodion 16 grams.

**False Openings.**

The teats are often injured when the cows are in stanchions, by being stepped on by the next cow, and in healing an opening is left on the side of the teat. Then sometimes a heifer will have naturally a false duct in the side of her teat. When the trouble has not been from injury but from a natural cause, it is best to leave the cow alone until she goes dry. Then scrape the sides of the opening until it is raw, bring the edges close together and bind with a piece of adhesive plaster. Cut the plaster into narrow strips and put it over the wound in a series of X's, being careful that the cut surface is completely covered at the crossing of the X. If the cow is in milk and receives an injury, then the same process must be used. In both cases use the lead plug to prevent the true duct from filling with granulations. When the cow is giving a large flow of milk it it better to put in a milking tube and let the milk drip away until the healing is completed. However this use of the milk tube is only for bad cases, as it may produce relaxation of the sphincter muscle that closes the teat to hold back the milk. It is very

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**Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**



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Petaluma, Sonoma Co., Cal.



**The Whiting Jersey Stock Farm Company**
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, Imperial Co., Cal



**John Lynch** Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.



***Berkshires--Shorthorns***
My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
***C. A. MURPHY, PERKINS, CAL.***

annoying to have a cow that leaks her milk constantly.

**Double Teats.**

Heifers are sometimes found that have double teats or the two teats cased in one skin. The surgeon must separate tbese clear up to the quarter of tbe udder. Unless an animal is very valuable it is just as well to send a cow like this to the butcher. Sometimes the supernumerary teats just back of the true teats, have a duct connecting with the back part of tbe udder. These the surgeon will close by cauterizing them and making them granulate. These extra teats rarely give any trouble and are regarded as indicative of great milking capacity. They frequently decorate the sire as well as the dam of some of the best herds.

**Bloody Milk.**

A fresh cow may give from a quarter of her udder milk containing blood. This trouble in many instances passes away as soon as there is less engorgement of the udder. As a preventive the cow should be milked every eight hours or three times a day until the first great rush

## NEW DAIRY AT UNIVERSITY.

The plans which are being perfected in California for enlarging the usefulness and effectiveness of the division of Dairy Industry contemplate the addition of several men to the force. The first appointment for the coming year is that of Mr. L. M. Davis of Kansas. He is a recent graduate of the Kansas Agricultural College, having given special attention during his course to the subjects of dairy manufactures, chemistry and bacteriology. He comes to California with an excellent recommendation as a careful conscientious investigator. For a time he will be at Sierraville and Loyalton where his attention will be given to a study of California cheese making. Later he will visit other parts of the state in order to familiarize himself with conditions before the opening of the fall course. The making of the so-called California cheese is an important industry and it is hoped to give definite instruction in this art at the Dairy School during the coming year. Butter making will also come in for a share of Mr. Davis' attention at the University Farm, where be will be stationed.

of milk is over. The use of tonics for this trouble is a waste, for it is as purely mechanical in the healthy cow as the running over of a pail of water when it is too full. The small blood vessels of the udder are too full and cannot longer hold their contents until it is elaborated into milk, and so discharge the blood directly into the milk. If the cow is healthy the blood is not injurious, and by allowing the milk to stand until the blood settles to the bottom of the pan, the milk may be poured off leaving the blotted blood behind. By observing which portion of the udder the bloody milk is secreted by, that portion can be milked into another vessel and fed to the calf.

The only bloody milk to be feared comes from a diseased udder. This is very rare, fortunately. By examining the milk for pus it may be distinguished readily.

Pus is a white mucous looking substance that sinks in water. If anything like this is discovered in the milk, it should not be used even for feeding the calf or pigs until the cow has been tuberculin tested and pronounced free from disease. If she passes the test and still gives milk containing pus, this trouble is too serious to be contended with and she should be fattened and turned off for beef.—M. E. Sherman.

**Do your cows milk hard? Send 50 cents for teat expander. .O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

## DAIRY BACTERIOLOGY.

We have received from Ginn & Co. a copy of "Experimental Dairy Bacteriology" written by Messrs. H. I. Russell and E. G. Hastings. The book is largely tecbnical, and yet no more so than it should be for the dairyman who would have his products in line with the demands of the present day. It touches upon the technique of the industry; contamination of milk, fermentation, preservation, bacteria aiding in butter and cheese making, milk hygiene, etc., and contains a number of chapters of great value. The mailing price is $1.05 and the book may be ordered through the Cultivator office.

## DAIRY NOTES.

Your well bred cow if kept in good condition will respond to feed when giving milk. It is well known that certain foods are milk producers.

On a pasture of green grass the flow will continue much longer than on hay, hence it becomes necessary as the pastures dry up to supply that which most nearly takes the place of green grass. Those fortunate enough to be located near a sugar factory can easily obtain a succulent food at comparatively slight cost.

A prominent dairyman who, if possible, feeds pulp the year around, makes the statement that "sugar beet pulp is the mainstay of the dairy business."

The most profitable milch cow is the one that comes the nearest to milking the year around with only the proper interval before again becoming fresh.

Unless exceptionally high prices are paid for it, milk is fully as economical a source of nutrients as other animal foods, but dearer than most staple vegetable products. Milk, however, requires no preparation, has no waste, and is more thoroughly digested than most vegetable foods. As a source of protein, the most expensive of the nutritive ingredients, it is especially economical. Skim milk, which is whole milk minus part of its fat, and which costs only half as much as whole milk, furnishes protein about four times as cheaply as beef. Foods prepared with either skim or whole milk are much more nutritious than those prepared with water.

To hogs alfalfa hay is usually fed dry. The leaves are more readily eaten than the stems, as they contain more of the nturitive value of the plant. For this reason some farmers save the last cutting of hay for the hogs because it is more relished. It is eaten up cleaner, as the stems are not so woody, and more food value is found in the leaves Sometimes the hay is cut up fine, wet, and mixed with other feed, and sometimes it is fed ground, as there are now alfalfa mills scattered throughout the alfalfa regions.—From Coburn's "Swine in America."


# The Passing of the Milk Factories

**has been caused by**

## The Universal Adoption of Cream Gathering

The Vermont Farm Machine Company are the pioneers in the cream gathering system. This cannot be successfully denied.

The farm or dairy sizes of the **United States Cream Separators** made such headway that the proprietors of milk factories, against their will, had to change. **The farmers demanded it.**

Not **10 per cent** of the whole milk factories of nine years ago are running today, as such. They have either closed up or changed to cream gathering, the more economical plan. Our "would-be-competitors", who are always "claiming the earth", cannot deny this fact.

These "would-be-competitors" had been supporting the whole milk scheme and fighting the progressive cream gathering system. When they saw that their efforts were futile—that the change was bound to come—they tried to save what they could out of the wreck.

If you have read their big blustering advertisements containing testimonials from creamerymen, you have noticed that nearly all admit they changed from whole milk and took agency for farm separators of this particular "would-be-competitor", because of the **large commission allowed to the creamery on the sale of their Separators.** The creamery made more money out of them than they did on the cream. Some went so far as to refuse to take cream from any separator which they do not sell and get the commission on.

This worked for a time, but the farmers were **too intelligent to be bulldozed** in this way. They insisted on having the BEST separator. All these creameries tacitly admit that they had to give up their exclusive agencies and take cream from the United States Separators.

**Several events forced them to it. Their pet separator was beaten in the greatest International skimming test ever held, in endurance tests running over thirty days.**

**The United States Separator also beat this pet separator** in the county where its factory is located; and in that county for ten years the United States has averaged more than **three separators** to every one of this "would-be-competitor's".

Figuring on the same basis as our "would-be-competitors" figure their profits, it puts **seventy-five dollars a year into the farmers pocket** if he uses a United States Separator instead of this "would-be-competitor's" separator.

A United States Separator catalogue, which can be had for the asking, explains all these things fully.

VERMONT FARM MACHINE COMPANY,
BELLOWS FALLS, VERMONT

# Special Sale of Holsteins

We are now offering our entire herd (75 head) of pure bred Holsteins for sale at very low prices. Will sell as a whole or in carload lots to suit purchaser on very liberal terms. All our stock comes from the celebrated herd, formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein-Friesians in Cal. Write your wants.

**OAKWOODS STOCK FARM CO.** **Lathrop, Cal.**

**FOR SALE**

## 20 CARLOADS OF MERCHANT NEW PIPE

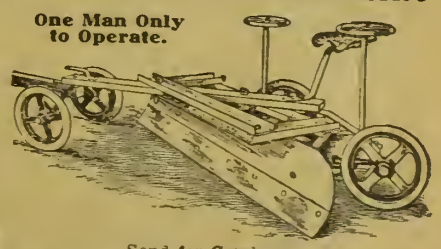
**Galvanized and Black—All Sizes**

Just arrived from the mills. We are offering this pipe at the lowest prices obtainable on the Pacific Coast. Write or telephone for quotations. Call and inspect the stock. We can cut pipe to any measurement you want. Our carload brass valves just arrived from one of the largest brass works in the East. All first-class new goods. Hose bibbs, garden valves, angle valves and globe valves. Two carloads oil well casing, 11⅝, 9⅝, 7⅝, 5⅝, 4, 3½, 3¼ and 3-in casing.

**Adams Pipe Works**
**2025 Bay Street, Los Angeles**
**Phones—F1917, Bdw. 1264**

## The Simplex Russell Reversible Road Machine

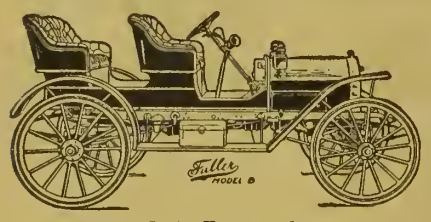
**One Man Only to Operate.**



Send for Catalogue.

**WM. T. MARTIN MACHY. CO., Agents**
**1277 Howard St. San Francisco, Cal.**

# THE FULLER



**At Last**

**What You Have Been Waiting For**

*Two or Four Passenger*
*18 Horse Power*
*Engine Under Hood*
*Shaft Drive*
*96 In. Wheel Base*
*4 Full Eliptic Springs*
*Artillery Wheels 36 In. High*
*14 In. Road Clearance*

Write for Catalogue

**Arnott & Company - Los Angeles**

***WE UNDERSTAND***

EASTERN CONDITIONS
EASTERN MARKETS
EASTERN PEOPLE

***Their Likes and Dislikes***

We Sell Our Goods Under a Special Label and Guarantee, and have created a reputation for Dependable Goods. Our Representatives are working among the high grade dealers, hotels, resorts and restaurants, creating a demand for

***CALIFORNIA PRODUCTS***

We introduced Crimson Winter Rhubarb into New York, Philadelphia, and Eastern Markets. Growers of Celery, Cantaloupes, Deciduous Fruits, etc., who would like to share in the benefits of our organization should write us. We can handle the products of other growers in addition to our own. Write for Our Plan.

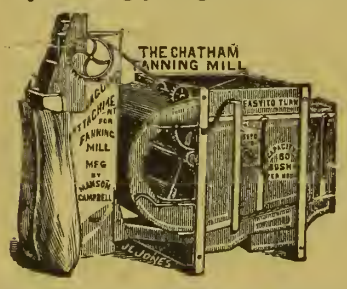
***THE PHALANX COMPANY***

513 Chamber of Commerce Building,
Los Angeles, California.

Eastern Offices. New York and Philadelphia.

# Make More Money

By cleaning your grain with a

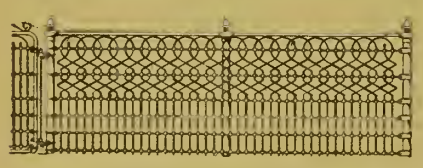



**Chatham Fanning Mill and Bagger**

Take out all the foul seeds. The Chatham will do it—and it will clean all kinds of grass seeds. Trirty days free trial. Freight prepaid to your depot. Write for big catalogue.

**GEO. W. FOOTT,**
**180 Union Ave.**
**PORTLAND, OREGON.**

# BEAUTIFY YOUR HOME



**Anchor Ornamental Fencing**

Complete Fences and Gates. Fancy Fabrics for Wood Posts. Kokomo Hog and Farm Fences. Prices quoted f. o. b. your station. Catalogue free.

***CALIFORNIA ANCHOR FENCE CO.***
***820 Main Street, Stockton, Cal.***

# VETCH SEED

For early sowing. We solicit your orders for prompt shipment

**Redlands Fruit Association**
**REDLANDS, CALIFORNIA.**

**FLEAFOE** MAKES 'EM GO!

And other pests, too. Mosquitoes, flies, roaches, ants, bugs, etc. Sure thing. Guaranteed. Nor does it stain or injure fabrics even a little bit. Odor not offensive. Bottles 25 cents, of dealers, or postage prepaid by us. Agents wanted; easy, quick money. **WEST COAST MILL CO., 705-709 So. Griffin Ave., Los Angeles, Cal.**

**$550** will buy the best ***88-NOTE*** Player on the market. Crown & Concord Pianos. 10-in. Disc Records 25c.
**PETER BACIGALUPI & SONS, Phonographs & Pianos**
**941 Market Street, . . . San Francisco**


# Small Fruits and Vegetables

## TRANSPLANTING.

IN transplanting, pull at one time only as many plants as will be required for part of the work. Keep the roots of the lifted plants away from the drying effects of sun and air. The feeding roots of young plants are very fine and delicate. A few minutes' exposure to the air will often so completely dry out some of them that the plants will perish. It is best to keep them covered with wet cloth while the work is progressing. If very little soil is adhering to the roots, immerse the roots in thin mud for protection. This process of immersing the roots of plants in thin mud is called "puddling," and is highly commended in transplanting, especially with large plants, such as shrubs and trees. Of course, some plants bear transplanting much better than others. With some, little care is needed, while with others much care is essential. One must learn by experience which ones are hardy and which ones are tender.

Pour water in the hole in which the plant is to be set, place the roots in this hole and draw in the finest soil that can be reached. Press the soil down firmly about the roots with the hands and afterwards with the feet. Then rake fine soil over the surface for a dust mulch to prevent evaporation of moisture at the surface. Aim to keep the soil moist below, but dry and loose on top.

Since some feeding roots are destroyed, it is always well to trim off a part of the leaves to reduce loss of moisture by transpiration. The entire top of some plants may be pinched off or cut away, leaving only a few leaves to carry on life processes. As soon as new roots grow and push down and out into the moist soil, new buds will develop and new leaves be produced.

If, after transplanting in this manner, the air and soil should become very dry or the sun shine hot so as to dry out the plants, cover them with newspaper. Some cover them with glass jars or other vessels, but this is not good practice. Glass draws too much heat and any close vessel shuts out the air necessary for health and growth. In dry times water the plants every evening till they become well established. Raking the surface soil about the plants with a fine-toothed rake will help to retain soil moisture as it ascends from below, often obviating the necessity of artificial watering.—Journal of Agriculture.

## HOW TO GROW LARGE FRUIT

I have been asked how I grow such large fruit for exhibition, and this is my reply: For strawberries, I select large plants, pinch out fruit stems, leaving two of the best. After bloom drops, pinch off berries, leaving three to five of the best. Set a tin can on each side filled with liquid manure. This liquid can be made by filling a barrel about two-thirds full of manure, poultry manure is best, and fill barrel with water to leach off like lye from wood ashes or it can be dipped out of the barrel. Fill the cans with this liquid every few days. Punch small holes in the bottom of the can for the liquid to run through slowly.

To grow large raspberries and blackberries select large canes. Cut off all canes with about two feet. After bloom drops pick off berries, leaving about one-fourth the largest. Set cans close to them as described for strawberries.

For tree fruit, select suitable branches and when fruit is about one-third grown pick off, leaving enough for about half a crop. Wrap wire closely around the limb between the body of the tree and fruit. This causes the fruit to grow over natural size, but it should be remembered this is death to that limb, so branches for that purpose should be used which we want to prune off next year. The size of fruit can also be increased by mulching manure or watering with liquid manure.

## THE VEGETABLE GARDEN.

Make the vegetable garden a long and narrow strip where it can conveniently be done, rather than to have a square block because the long-shaped piece of ground can be worked with the teams to better advantage. The progressive farmer and gardener uses horse instead of hand labor wherever possible, each individual case, however, governing according to circumstances.

Plow the ground and pulverize with harrow and disc, repeating the operation at intervals of a week to ten days, or after a rain. Enrich thoroughly with any required fertilizer, according to condition of the soil. See that the patch is either naturally or artificially drained. Repeated diskings until time of sowing the garden seed or up to the time plants are set out will save much work at weeding and cultivating subsequently. The same principle applies whether horse or hand tools are used.

It is better to continue pulverizing the soil, as may be required, until time of growing temperature.

Let the ground become warm enough for plant growth, then sow seeds of the hardy classes as pease, onions, cabbage, etc., or set the plants when previously grown in boxes. In many cases crops may be produced with scarcely any after cultivation from time of planting when the ground has been put into the proper condition previously. It always pays to do the preparatory work beforehand.

## A CURE FOR MELON BUGS.

A very successful market gardener told me last fall that he had a sure cure for the little striped melon bugs. He said he had paid $10.00 for the secret and it had been worth $100.00 to him since. It was nothing more nor less than a liberal use of bone dust or bone meal around the plants. He says it will absolutely drive away the striped bugs when everything else has failed. I have not yet had a chance to try it myself, but it is possible that he is right. If so, it is a valuable idea. The bone dust will be a good thing for the plants, anyway, whether it drives away the bugs or not for it is a rich fertilizer. It can be had from any dealer in fertilizers at a cost of probably $3.00 per hundred pounds.—St. Jo. Fruit Grower.

Successive seeding of radish, peas, beans and lettuce will provide these vegetables throughout the summer and fall season.


# Eucalyptus Seeds

In large or small quantities, 33 kinds to select from. Write for free pamphlet "Eucalyptus Culture." It gives full directions for sowing the seed, raising the plants and planting out into the field, together with descriptions of all the leading species, giving their uses and the localities to which they are adapted. Sample packets 15c each, 2 for 25c, 4 for 50c, 9 for $1.00. Choice Flower, Garden, Tree and Palm Seeds, Roses, Flowering Plants etc. Catalogue mailed free upon application.

**Theodore Payne**
SEEDSMAN and NURSERYMAN
**345 So. Main Street**
**Los Angeles, Cal.**

**CRIMSON WINTER RHUBARB**

$1.50 a Dozen, $6.00 per 100, $40.00 per 1000

Now is best time to plant Rhubarb.

Berry Plants of All Kinds.

**J. B. Wagner**
**Pasadena, Cal.**
Rhubarb and berry specialist

# Eucalyptus

We make a specialty of raising Eucalyptus by ***contract*** in any quantity at a very ***low figure.*** Orders should be booked this month. Send for our ***price list*** of Eucalyptus, just issued.

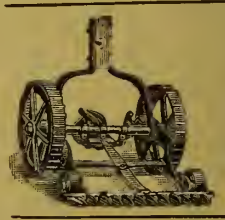
**Sycamore Grove Nurseries**
**Saint & Warner**
**4584 Pasadena Ave, Los Angeles**

# Seeds & Plants

Tomato Plants
Cabbage Plants
Pepper Plants
Cauliflower Plants
Onion Plants
Egg Plants
Kale Plants

Write us for prices

**Hickey & Vonsen, Inc.**
**Box C, Petaluma, Cal.**



**THE CLIPPER**
Will cut tall grass and weeds and do all the trimming along the walks and drives. Your dealer should have them—if he has not drop us a line and we will send circulars and prices.
**Clipper Lawn Mower**
**Dixon, Illinois.**

**"Tournament Sweet Peas"**
Mixture of 25 Colors
Winter Blooming
Ounce 25c Postpaid
They bloom from October to May.
Sold only by
**The Ross Seed Store, Pasadena, Cal.**
Mention this ad.

# Pacific Seed Co.

**C. Bagnall, Prop.**
GROWERS AND IMPORTERS OF
**Grass, Vegetable and Flower Seeds**
**All Kinds of Bulbs and Onion Sets**
**609 J St., Sacramento, Cal.**
**Send for Catalogue. Please mention Cultivator**

# Paper Berry Baskets

Better and cheaper than wood.
Send for samples and prices to

**E. F. ADAMS, Petaluma**
**Mfr. of Egg Cases and Fillers, Paper Boxes, Etc.**

When writing advertisers, mention Cultivator.

# The Ornamental Garden

### THE BEST SORTS TO GROW.

THE ROSE has always been held in the highest esteem by lovers of flowers. Its variety of color, form and exquisite fragrance justly entitle it to the first place among floral treasures.

But many are deterred from enjoying this favorite because of the seeming difficulties in its cultivation. The belief is prevalent that on account of its tenderness, lack of vigor, and liability to the attacks of diseases and insect foes, this beautiful flower cannot be grown successfully except by expert cultivators. Others think that the rose blossoms only once during the season, and that the plants, after flowering, are not only unattractive but objectionable; hence it happens that many who should have an abundance of roses in their gardens must, by force of circumstances, be deprived of the great pleasure.

The satisfaction of having a bed of roses almost constantly in bloom, equaling in beauty and effect a bed of geraniums or foliage plants, can be realized, in the writer's opinion, by a judicious selection of kinds and by proper treatment of the plants, an operation which is not necessarily difficult or troublesome.

The prospective pleasure, too, of being able to pluck from the garden every day during the summer a bouquet or an armful (according to the number of plants) of these charming flowers for home decoration or for distribution among one's friends, will perhaps induce the reader to note the suggestions herein made, and to attempt at least to become enrolled among those who are recognized as successful cultivators of the queen of flowers.

Within the last few years, through the efforts of hybridists, new varieties have been originated which have greatly enlarged the list of so-called everbloomers, and at present a selection can be made, which with ordinary care, is sure to give the most satisfactory results. In years past we had to depend mainly upon a few Bourbons, Bengals and Chinas for the purpose mentioned, none of which can be said to have given the satisfaction or pleasure which was anticipated. The plants were not vigorous enough and the flowers were not sufficiently atractive to win admiration and encourage efforts to cultivate them.

The basis of successful rose-growing is rich soil, ordinary good garden soil, well-drained and thoroughly and deeply spaded, enriched with manure or fertilizer. The soil can hardly be too rich, but the manure must be decayed and thoroughly incorporated with it, and the plants must be set in the soil, not in the manure as it is sometimes done. Well-decayed sod, prepared in advance and forming a compost, is a valuable addition to garden soil. Careful preparation of the soil in advance of planting, will amply repay the care taken.—W. C. B.

### HOW TO SELECT SHRUBS.

Shrubs as a rule are intended as a frame for the yard or garden. They are planted around the borders of the lawn, or used to screen the foundation of the house, or to fill in corners.

The shrubbery frame for the yard or garden should be formed on the same principle as a picture frame, the border of a rug etc. It should harmonize with the picture it encloses, and each shrub in the border should harmonize with its companions. Too often no attention is paid to this kind of harmony and the shrubbery border becomes a thing of shreds and patches, made up of showy bushes, perhaps beautiful plants in themselves but arranged without regard to the effect of the shape, color and general appearance of one upon the whole.

In choosing shrubs to grow side by side consider the foliage and flowers as carefully as you consider the size and shape of the bush. Do not put large masses of dark, or you will have a patchy effect. By care in selection as regards flowering season, you may be sure of having one or more plants in the border in blossom at all times during the summer. Two shrubs that blossom at the same time should not be placed together if the colors clash. In the summer study your shrubbery border and make notes as to new plants needed, their color, size and flowering season, and also what old plants may profitably be moved. These notes will enable you to work accurately in the fall, after the blooming season, or in the spring. Care in selecting and arranging the plants in your home grounds will never be regretted.—National Council of Horticulture.

### CHRISTMAS FLOWER SWEET PEAS.

Within the last few years there has been developed or hybridized a class or specia of Sweet Peas that are early blooming in character and are used by florists for "forcing" during the winter throughout the East, and are very popular. Through the milder or warmer sections of California they can be planted during August and September and will bloom all through November and December, and in fact all the winter without protection.

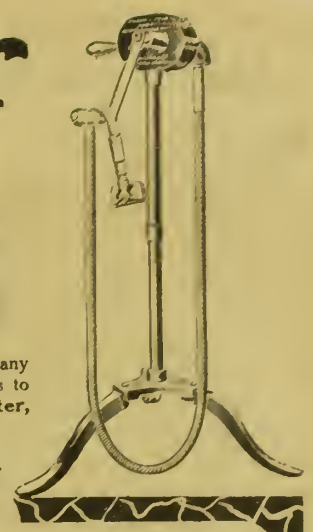
Of this class there is yet a limited number of varieties, but most of the colors are represented.

A list of the best varieties are as follows. The Earliest White, originated at Ventura by Mrs. Gould, which is a sixty day variety. Bodger's Earliest Pure Pink, introduced by the Morris & Snow Seed Co., who control this variety. This one proved the hardiest of all varieties last season. Earliest of all, a very good pink and white sweet pea and a very popular variety. Christmas Pink, a pink and white variety. Mrs. Alex. Wallace, a clear lavender. Christmas Red, a clear scarlet.

After sowing, providing the soil has been thoroughly soaked before, all further watering must be withheld so long as all seeds are not up and as long as there is any moisture below three inches of soil. This encourages the young plants to hunt deep for their food and moisture and prevents their damping off in hot spells. When really necessary, give a good watering only between the rows and away from the plants.

During hot weather syringing is good. As soon as the peas are up, look out for the green fly; they are apt to be right there. By syringing with Tobakine (one teaspoonful to a gallon of water), the plants can be kept clean if done in time. After the Sweet Peas are in full crop, a watering once a week with cow manure liquid will improve the flowers, or by using a small quantity of blood meal or nitrate of soda the size can be greatly improved.—O. M.


**Clip Your Horses Yourself**



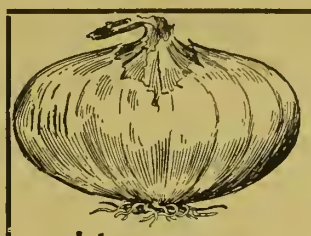
Stop paying high charges for work that you, or any man or boy, can do. There's no need to employ experts to clip your horses when you can clip them **yourself better, quicker, cleaner, safer and cheaper** with a

**Stewart No. 1 Ball Bearing Horse Clipping Machine**

It's an economy for the man who owns one or more horses. For, with a STEWART, there are no delays. The machine is always ready for use. Horses can be clipped more frequently and at Regular Intervals. The STEWART is *the* machine that lasts indefinitely and gives good service *all* the time. It never requires attention, and runs practically without friction or wear. A tremendous speed of the knives is obtained by slowly turning the handle—and a boy can turn the handle. (Another boy can clip the horse.) **Complete for $8.50.**

The price is for the machine ready to begin clipping horses with. It includes six feet of flexible shaft, the famous Stewart Clipping Knife and a liberal guarantee. Get one at your dealer's. If not there, write us.

CHICAGO FLEXIBLE SHAFT CO., Dept. H CHICAGO



**Imported Bermuda Onion Seed**

Our Bermuda onion seed is the finest Teneriffe grown stock, gathered from select large bulbs. We import it ourselves, direct from the Canary Islands, and we thoroughly test it for perfect germination before we offer it to our trade. If you intend to grow onions this season, it will pay you to buy your seed from us and get the advantage of our direct importing and scientific testing. We have an import shipment due here August 20th. Orders should be placed now.

White Bermuda Seed, oz. 25c; ¼ lb. 75c; lb. $2.50.
Red Bermuda Seed, oz. 25c; ¼ lb. 75c; lb. $2.25.
Crystal Bermuda Seed, oz. 30c; ¼ lb. $1.00; lb. $3.50.

**Winningstadt Cabbage Seed**

For August and September sowing the Winningstadt Cabbage is unquestionably superior to all other varieties. The hearts are firm, full size and of very fine delicate flavor. The crop comes in for cutting very early in the spring. Our seed is all French grown and we carefully test it for fertility.

Oz. 20c; ¼ lb. 60c; lb. $2.00.
Special prices on larger quantities.

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# California Cultivator

ESTABLISHED 1889

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-08 means July 1, 1908. Notify us by mail if you desire to discontinue.

Thursday, August 26, 1909

Address All Communications to

CULTIVATOR PUBLISHING CO.

115½ No. Broadway, Los Angeles.

733 Merchants' Ex. Bldg., San Francisco.

Copy for Change of advertisement must be in office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

CULTIVATOR PUBLISHING COMPANY

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Entered at the Post Office at Los Angeles, California, as Second-Class Matter.


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### TRAINED BUSINESS MEN.

The farmer is coming to be more of a business man than he was years ago. He has more grasp of business demands, and through the hard knocks received in marketing his products has had his wits so sharpened that he stands a good chance with the trained business man of the cities. But he should not expect to leave the plow and engage in the unequal contest of the marketing of large quantities of products without due preparation.

Only a few days ago the Cultivator received a letter from a section now forming a co-operative marketing association. This letter asked various questions as to details of packing a certain kind of fruit, etc., all entirely proper questions, but indicating a start in a line of co-operation which we believe, can only end in failure. When the producers raise their crops and pool their fruit, they have done the share for which their life time of training has fitted them. Their shrewdness should then impel them to secure equal skill in the line of marketing. That should be the motive of co-operation.

It must be admitted that many farmers look at the matter of marketing as of small consequence and one that any man with horse sense can attend to. This is true at times, but at others, far from it. If co-operative effort is to succeed it must have the benefit of shrewd marketing. The farmer often looks with distrust on the business man who demands a salary in excess of what the farmer knows he himself can earn, but ability must be paid for and it will give a good return on the Investment. Bear in mind we say "ability." Often ability and business judgment is claimed, but the goods not delivered.

### ORIENTAL LABOR.

Commenting on the attitude of Col. John P. Irish on the Jap labor question, in which he advocates oriental immigration on the ground that the chief need of California is farm labor, the Fresno Republican says:

"Not so fast, colonel. The chief need of California is farm owners. When the big estates of California are largely cut up into "one-family" farms, on each of which lives a hard-working man with his family, there will then be population enough in the agricultural district, to do the work of those districts. One of the best ways to hasten that consummation is to keep Oriental laborers away from the land owners who can not profitably farm their land without them. It is not at all imperative that these large farms make a profit. In fact, it is quite Imperative that they make a loss, if the only way to make them profitable is to undermine the racial civillzation of the state. Probably it will not be so bad as that, but it is likely to become increasingly advantageous to farm lands in small tracts rather than big. Then the big man will have the choice of selling his land at a profit or keeping it at a loss.

"Colonel Irish has been preaching this doctrine for years, and occasionally he has hypnotized a convention of short-sighted farmers into thinking they agreed with him. What Colonel Irsh needs is some bifocal glasses, for his mind's eye, so that he can see far as well as near. Then he will know that every dollar made or gained by Oriental labor now means many dollars, and more than dollars, lost to our race and our civilization later."

### BETTER DRAFT HORSES.

For several years stock raisers have shown apparent fear of over production of horses. At one time the bicycle was going to greatly lessen the demand; later the automobile surely would, for it soon adapted itself to heavy trucking as well as to lighter road travelling. Again, the extension of the uses of machinery added to this apprehension. All these influences have resulted in greatly reducing production, or, to be more exact, proportion of production, of horses. There has been an actual increase, but it has by no means been proportionate to the increase of population, which has amounted in the last fifteen years to 33 per cent while the increase in horse production has been less than 23 per cent. Prices have raised in greater ratio. It is not unusual for a good draft horse to sell for from $350 to $500 in the large cities, and a well matched team will at times bring $1000—and this not only in single instances, but sometimes by car lots. As much as machinery may come to take the place of draft horses and road horses, there will always be a certain demand which only the most faithful servant of man can fill.

### PETROLEUM BUTTER.

The farmer has for a long time depended upon the Standard Oil Company for axle grease to make the wheels go round, and for many other necessities. Now it is rumored that the Standard Oil Trust is to enter into competition with the dairymen of the country and manufacture "petroleum butter." We presume this report is somewhat in the nature of a joke, but Standard Oil has manifested a disposition to corral everything in sight, so we may lend some credence to the story. An Eastern paper says of this departure: "From petroleum we get axle grease and phenacetine, dyestuffs, and monopoly, vaseline and philanthropy, benzine, kerosene, gasoline, billionaires, restraint of trade, pipe lines, tank cars, tank ships, tank wagons, Sunday schools, sermons and commercial precedents. So why not butter?"

### AMERICAN BREEDERS ASSOCIATION.

The Sixth Annual Meeting of the American Breeders Association will be held in Omaha, Nebraska, Dec. 8, 9, 10. At that time a National Corn Show will be held at the same place. Producers of live stock and producers of plants will unite in discussing the principles of heredity. The secretary of the association is W. M. Hayes, Washington, D. C.

### PROTECTION FROM LIGHTNING.

We have received a circular from the Department of Agriculture stating that from 700 to 800 people are killed, twice as many injured and considerable property lost each year in this country through the effects of lightning. The circular then goes on to say that the Department has issued Bulletin 367 explaining how it happens, how to prevent buildings from being struck, etc. This may be of interest to our Eastern friends. We merely mention it that Californians may appreciate the blessings of living in this wonderful country. It is perhaps true that there have been people killed by lightning within the bounds of this state—we recall one nearly 20 years ago, but have heard of none since—and such instances are so exceedingly far apart that we may say the state is practically exempt. Many in the East wonder how we can feel safe to live in this country of fearful earthquakes, yet the 700 or 800 killed over the East by these storms every year is a far greater number than those killed in a score of years by earthquakes on the Pacific Coast.

### GOVERNMENT PURCHASE OF CROPS.

The experiment of the government purchasing crops of producers is being tested in Brazil. The state of San Paulo, where much of the coffee used in this country is produced, in order to prevent producers selling at an exceptionally low price when compelled to unload the crop at once, advanced funds and stored the coffee. This assurance of at least fair returns so increased the production that if it had been forced on the market the immense quantities stored by the government would have broken the price, and the suggestion was made that one entire season's production should be burned.

The government has already borrowed seventy-five million dollars to conduct this experiment, and finds it can go no farther. This may prove very expensive to Brazil, but is being watched with considerable interest by producers in other countries.

### STREET PLANTING.

Th managers of a large tract of land near Riverside are beginning right in one respect. They have secured a large body of land which is to be sub-divided and sold in small ranches to home makers. Good land was secured and abundant water is to be piped, but one of the first steps taken after these two factors had been arranged, is the beautifying and parking of the roadways. For this purpose they have secured Mr. Q. A. Lobingier, for several years writer for the Cultivator, and Mr. Lobingier is now at work formulating plans. We believe that his work will add greatly to the attractiveness of the home acres which are being subdivided.

### SAVE THE BIRDS.

The first page article this week, which is taken from an address delivered at the National Irrigation Congress at Spokane, contains some interesting reading. The writer maintains that conservation of our resources looks beyond the lumber yard, the coal mine and the iron supply, and he shows wherein our little feathered friends may be of great value to the farmer. This, of course, is no new theory. It has been talked for years and years, but this manner of placing it before the people is perhaps valuable at this time.

## Business Notes

Almost every mail brings to this office pleased expressions from subscribers who find in the Cultivator their money's worth or better. The latest along this line is from Mr. John R. King of Whittier, who says in remitting his dollar for another year's subscription, "The Cultivator is worth ten dollars a year." Among our most enthusiastic friends is Mr. F. W. Marvin of San Francisco, who writes under date of August 1st, "I came across your paper full of news and information. How you can publish such a paper at the price, I don't understand, as the information I found in the two copies I saw, is worth many dollars to me even now. I really haven't the cheek to send you one dollar, so send you two for two year's subscription and in fact came near making the check for five dollars instead of two. I am not a farmer but a merchant, but am sure your paper will be more than welcome in my house."

# Agricultural Notes of the Pacific Coast

## Northern California

Biggs has shipped 180 cars of deciduous green fruits.

Hop picking began at Wheatland August 10th with a thousand pickers.

Pear blight is doing more damage than for some time in Nevada County.

Butte County will have an exceptionally large output of dried prunes this year.

Yuba City growers are receiving $20 per ton for their Thompson Seedless grapes.

The pea crop of Humboldt county has been almost a complete failure this year due to aphis.

The contest is still on between the agriculturists and the dredge miners, and still the damage is being continued.

Prof. Wickson has suggested that Luther Burbank be secured to conduct a school for the study of horticulture.

Johnson grass is spreading in the Yuba City slough and farmers are urging a strong movement be started to eradicate it.

The condition of the Sacramento River is worse for navigation than it has been for many years owing to sand bars and snags.

The Santa Rosa Chamber of Commerce is exhibiting a large number of varieties of plums grown on the Burbank experiment farm.

Hay sown on land which had been overflowed in Contra Costa County made a good crop which was cut two months after seed was planted.

The skimming station of the United Creameries at Arcata has just been completed. It is to take the place of the old plant burned on June 16th.

A farmer from the land of Palestine is investigating farming methods at Chico, hoping to gather information which will be of value to his people.

The immense ice and pre-cooling plant at Roseville built only a year ago is already proving too small and it is probable that its early enlargement will take place.

Humboldt County will hold two fairs this year, one at Eureka and one at Ferndale. The Ferndale fair will be from September 6 to 10, and the Eureka fair from Sept. 12 to 17.

The shortage of cars in the deciduous fruit shipping districts has been largely relieved by the special rush order to push empties to the western end of the line as rapidly as possible.

The Farmers Protective Association has been organized at Anderson and will endeavor to have discontinued the nuisance of smoke from smelters, which is causing great damage to crops.

An expert planting assistant of the service has been permanently detailed to work in the Shasta National Forest. His work will be principally in overseeing planting stations for nursery forest trees.

The Woodland Creamery has 225 patrons and is making 1500 pounds of butter now. Best days in winter they make 2500 pounds. There are two other creameries represented there with about 45 patrons to each. There are a few over 300 dairymen about Woodland.

## Central California

Hanford has a sewer farm which is proving profitable.

The Corcoran sugar factory is crushing 250 tons of beets daily.

Morganhill small ranches are rapidly being taken up by Easterners.

Work was begun a short time ago on the fruit packing shed at Turlock.

The farmers union has established an office in San Francisco at 214 Front Street.

The number of farms in San Joaquin County has increased by 536 in the past year.

The San Jose Grange at its recent meeting discussed the best method of curing prunes.

Tulare lake is much higher than usual at this time of year and has been rising recently.

It is reported that the sales of canned fruit are 350,000 cases ahead of this time last year.

Kern county will ship about twelve carloads of honey, which is much short of the normal crop.

U. G. Strader a breeder of Dutch belted cattle at Ceres, will make an exhibit at the A-Y-P Exposition.

Hanford peach dryers report that four cents is as good a price as has been offered them for this season's output.

It is now expected that the capacity of the Corcoran sugar factory will have to be increased before another season.

Thompson Seedless men at Exeter are receiving better returns than last year, but the shipments are not nearly so heavy.

The Santa Clara cured fruit association has opened its packing house for the season's fruit. It is now running on apricots.

A number of Mennonite colonists have been inspecting land in Kern County in the hope of finding suitable lands for home makers.

The Kern County Fair which will be held in Bakersfield the week beginning September 6th, is receiving continued demands for space for exhibitors.

Santa Clara has over 4000 men, women and children employed in her canneries. These canneries will put up over a million cases of canned goods this year.

Several sections of Central California are infested with what is called European foul brood. Strenuous work is being done to keep it subdued as much as possible.

The Farmers Union at Campbell, Santa Clara County has received a shipment of machinery which will be installed in the new packing house, which will be ready for prune shipments.

Rumor has it that there is a packers' war on between the shippers of raisins in the Fresno section. It is hoped that the producers will get their just deserts if the scrap does materialize.

Some contention has been stirred up in Tulare County because some have claimed that Mr. Miot, in charge of the exhibit at the A-Y-P Exposition, is not impartial in advertising various sections of the county.

## Southern California

The Oxnard Sugar factory is receiving about 2500 tons of beets daily.

The entire Colorado Desert section was visited by a heavy rain storm last week.

Three hundred hands are constantly employed in the Waters Cannery at Pomona.

The Lemon Men's Club of Southern California will meet in San Fernando September 11th.

Some Coachella Valley alfalfa growers have found satisfactory returns in producing alfalfa seed.

The Azusa Irrigating Co. is constructing a new reservoir upon recently purchased property.

Large shipments of hay are being made from San Fernando, ranchers receiving about $13 per ton.

Escondido is planning for an extensive exhibit of all her fruit products at the coming grape festival.

The lima bean growers of the San Joaquin ranch, Orange county, will affiliate with the Ventura association.

Large portions of the Lucky Baldwin ranch near Los Angeles are being sold off in small parcels to farmers.

San Jacinto promises to exceed 200 tons with its pear crop this season, which is of exceptionally good quality.

The Upland Heights Orange Association is the name of a new co-operative marketing association at Upland.

The Southern Pacific Railroad will lay a spur from its track in Santa Paula to the lemon ranches east of town.

Riverside orange growers are already considering the advisability of more complete preparation for frost protection.

The Riverside horticulturists have adopted resolutions favorable to Burbank and condemning the action of the Pasadena Gardeners Association.

The largest onion seed ranch in California is that of G. A. Murdock near Westminster. This ranch is now sending out carload lots of onion seed.

The lima bean crop of Santa Monica, Los Angeles county, is promising an exceptionally good return this year. The season has been very favorable.

The Ventura County Bean Growers Association has entered into an advertising scheme at the Seattle Fair where thousands of folders have been distributed.

The benefit of organized fire fighters was shown in a foothill fire near Santa Ana, when a fire that swept 200 acres was brought under control by back firing and fighting with shovels.

Ventura County will ship 170 cars of dried apricots which will bring to that section something over a half million dollars. The return to the county for pits alone will almost reach the figure of $150,000.

The large irrigation company which is about to take up the plan of damming Lake Elsinore, is corraling a large number of power plants in Southern California, and it is claimed a large electric power trust is in contemplation.

## The Coast

Dry farm crops of Utah are making the best yield ever for that state.

The Interstate Fair and Exposition will be held in Denver, Sept. 12 to 18.

Idaho barley growers are receiving a cent a pound for their growing barley.

The crops of hops in Oregon will aggregate about one hundred thousand bales.

The first car of wheat to be shipped from Colfax, Wash., went forward on August 18th.

The Inter-Mountain Fair will be held at Salt Lake during the first week in October.

The new creamery recently started at Eagle, Idaho, is producing 400 pounds of butter daily.

Irrigation canals near Phoenix, Ariz., will be greatly damaged as a result of last week's storm.

The Society for the Promotion of Agricultural Science held its annual meeting in Portland, Ore., last week.

A colony of blastophaga has been imported to the Hawaiian Islands, and is reported as doing well on the Capri fig.

Farmers near Okanogan, Wash., expect a railway soon to be built, which will relieve the present inabilty to move crops.

A large irrigation project near North Yakima, Wash. has been held up by the rights of certain Indian owners of land.

Samples of rubber produced in the Hawaiian Islands have been forwarded to Germany and reported as of exceptional quality.

Arizona was visited by one of the most severe storms in its history last week, which did great damage in the vicinity of Yuma.

The first picking of hops in Oregon is expected to be August 26th. The wages will be one dollar per hundred. The crop promises well.

A farmer near Greeley, Colorado, asserts that he knows blackbirds have saved his beets from web worms which have become a great pest.

The Turkey Creek Reservoir and Irrigation Co. near Pueblo, Colo., is building an enormous dam which will give water for much additional land.

Farmers in Columbia county, Wash., are refusing to sell their wheat or barley at present prices, and are planning to store at least 2,700,000 bushels.

Owing to damage by spring floods, irrigation systems near Grand Junction, Colo., were put out of commission and great damage to crops resulted.

The meeting of farmers institute workers at Portland, Ore., was attended by representative men from all parts of the country, and helpful sessions were held.

At a recent meeting of farmers near Tucson, steps were taken to form a company to control the waters of the Rillito and use them to irrigate about 2000 acres of land.

Great excitement has been occasioned at Bellingham, Wash., by the raiding of fish traps by an armed body of men who stole between 40,000 and 50,000 fine salmon.

**FOR MOULTING HENS**

**Feed**

# MIDLAND

## Poultry Food No. 4

**$1.95 per Sack**

Midland moulting food is a balanced ration for the moulting hen and is absolutely the best food to feed for eggs and feathers. By feeding No. 4 now you bring your flock through the moult in good condition, which insures eggs when the market is high.

**Petaluma Incubators and Brooders**

Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

Send for our Illustrated Catalogue.

**Petaluma Incubator Company**

**Petaluma, California**

Our General Agents for Incubators and Brooders and Midland Poultry Food:

**Petaluma Incubator Co., Petaluma, Cal.**

**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**

**Berrar & Robertson, San Jose, Cal.**



# For Eggs Next Fall Feed Now

# West Coast Egg Food

Don't make the common mistake of supposing that you can let the fowls get all run down before or during molting and then bring them up by heavy feeding later. You won't get eggs that way. They must be kept in good condition and fed feather producing and egg making food. We know how to make rightly balanced rations for such purposes. That is our business, and we have the best equipped mill for doing it, or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg Food, as good as anybody can make, by using

# EGG MORE

and you will get no unsound grain, no mill refuse and such stuffs, as are in many concoctions called Egg Food. Egg-More is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs if you feed it just a little each day. 25 lb. sack, $1.90; 50 lbs., $3.60; 100 lbs., $7.00. If not kept by your dealer we will prepay freight within 300 miles.

**West Coast Mill**

**Cor. Griffin and Alhambra, Los Angeles**



**MRS. C. D. HUBBARD'S** WHITE WYANDOTTES

Eggs for hatching September 1st '09. Write for circular.

BOX 60, ROUTE NO. 1 SAN FERNANDO CAL


# Profit in the Poultry Yard

By Mrs. Frank Metcalf

**We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.**

## NOTES FROM AN AMATEUR

A FEW months ago I sent you an article on egg production, and requested that some of our poultry and egg producers give us facts and figures of their experience in the business. Mrs. Metcalf responded and I read her report with interest, as I do all of her writings.

My pen of Black Minorcas averaging seventeen hens since January 1st has done very well under very unfavorable conditions, for I have no green food and have to feed dry alfalfa hay, which I get in bales, chop up and feed mornings with bran mash. I received in the last seven months two thousand five hundred and eighty-seven eggs, being 152 eggs each, from my birds.

I received $64.60 cash for the eggs, as I supply a few private families with strictly fresh eggs at 30 cents per dozen the year around. Now, please do not lose sight of the fact that this is not a good average for my stock compared with what they produce when properly cared for. But I am convinced that a flock of such birds as I have is a paying proposition just for eggs.

Now, I want to say a word or two in regard to producing stock. First, one can afford to produce only the very best he can get, whether for eggs or for broilers. I have had twenty-five years of practical experience in producing poultry. I have raised chicks all over the United States and Western Canada and I believe this is the best place of all for the birds. I believe as a rule amateur bird raisers never count the cost of their good laying hens. Now, the birds of a good laying breed are light weight from 4 to5 pounds each, and some not over three to three and one-half so you hardly get pay for raising the cockerels up to broilers.

I would kill mine on sight if I could determine the sex, but I cannot, consequently I am blowing in high-priced feed on a lot of cockerels that will not pay out. So, you see, we have all this to charge up to the hen that we do raise and I found my early hatches produced over half males and the late hatches nearly all pullets. So, take it all around, you will find a pullet at six months old is cheap at $18 per dozen. That is, of good full blood laying stock either Leghorn or Minorca. I bank on these as leaders over all other birds for egg production.

I am not writing this article thinking it will interest the owner of large poultry plants. There is not a man on earth that has stayed with the chicks through thick and thin until he has one thousand or more but knows all about the business; but I like to hear from those with less experience and learn their results in the business.

I think it a great help to us in visiting other plants to see the way others handle birds. There are many little details that you learn; simple ones too that are of great benefit to any one in the poultry yard, and it is very interesting to see the many different ways poultrymen have in handling and feeding their birds. I have had the pleasure of spending one day with Mr. Hammond at Highlands. It was the most interesting chick talk I ever had in any one day. And that was not all. He had something to show me and that was one of the most beautiful, healthy and clean flock of White Rocks I ever saw. He is an up-to-date poultryman and a fine all around sociable fellow. Visit his plant and you will see what an educated poultryman can do on a large scale with money to do with.

Come to my yards and I will show you what a man can do without money to start with. Visit both sides and you can then draw a line that you can work up to without much risk of failure.

Now, I want to say a word about roup. I see so much about it and so many things advertised for curing it. Roup is a very serious affair for it not only hits a bird's head, but hits from its eyes clear to its lungs, and will kill a chick in short order.

I have had but very few cases of roup in my flock. It is simply from a cold and I find every case I have is from fault of my own. It is only when they are crowded and get so heated that they come out and get cold, which in most cases proves fatal. I cure them if I get them in its first stages. Keep only a few together and the roup will not hit them. That was always the case in my experience.

I never was a chicken doctor but when a two-pound chick gets to moping, and the egg for that bird cost me $1, it makes me sit up and take notice. Now, I would be pleased to hear through the Cultivator a report of egg production from any good flock of layers. I wish to learn what results people are getting here in California.—Daniel Webster, Rialto.

## DURING THE MOLT.

If ever a hen needed care and attention in her life, this is the accepted time. A whole lot of nonsense is always printed at this time of year about starving the hens a while to make the feathers drop out quickly, then stuffing them to make the new coat grow. Well, if you want to put your hens in a condition to catch any disease germs that may be floating around, and weaken their constitutions so they can't withstand sickness, just starve them as per direction and note results.

Rather than starve them at this critical time, increase the richness of their ration until they are in condition not only to produce the new coat of feathers, but a good percentage of eggs as well. More meat may be safely fed now than at any other time of year, if added gradually, a little more every day, and not all at once increased beyond the limit.

Green cut bone is excellent if perfectly fresh, but if doubtful, beef scraps and granulated bone would better be substituted.

Oyster shell, grit and charcoal are prime necessities, and plenty of fresh water at least twice a day.

During molting the skin seems especially irritable owing to the dropping out of old and growing in of new

feathers, and a fresh dust bath is greatly appreciated and most thoroughly enjoyed by our feathered friends, and if occasionally sprinkled with water and a handful of sulphur added, after it dries, it is still nicer for them.

**Feed.**

As to the grain ration, plenty of wheat and corn may be fed without danger at this time, as well as the mash in boppers, and green food, so that they may have the material to make themselves over and not feel the drain upon their vitality a starvation diet would result in.

The care of molting hens is not the delight it might be, and their appearance is not at all attractive just now, but remember if we would see them blossom out brightly in fresh new raiment, we must take especial care to furnish them the wherewithal of which that new raiment is to be made.

**Nits.**

And now is a right good time to go over the flock and look for those feathers at the base of the tail which are covered with nits, which are the eggs of body lice, and which may now be pulled out and burned without injury to the bird. If a bath is given each bird in either tobacco tea or some good safe lice killer, these feathers will be readily found and destroyed before the fertile eggs upon these feathers have a chance to batch, and what a lot of misery we can save those hens by this simple method!

The feathers from the molting hens sometimes contain lice and nits, and should be either swept up and burned, or sprinkled well with lice killer and not left to blow all over the place spreading lice and nits wherever they go. One can't just go around and pick them up one by one, of course, but those under the roosts may be destroyed or made harmless with a little attention, and every little helps.

**Spray.**

And if I had to choose a text for a sermon at this time of year on chicken raising, that text would be "Spray often and Thoroughly," for lice and mites grow like mushrooms this weather, and must be kept in check or the buildings will get in the condition a lady reported not long ago. When asked about how her hens did, she replied, "I don't even go out near the coops to look at them any more, for they are full of mites and the children get covered every time they hunt the eggs." Well, I should think it would be few eggs those poor hens could produce under such a state of affairs and I understand that these people declare that "chickens don't pay." Nothing in this world can be made to pay if neglected.

As well expect figs from thistles as to look for eggs from lousy hens, housed in a mite infested house. What a life of misery such neglect entails! It seems as if there should be an inspector of poultry quarters as well as an inspector of dairies, but, of course there is no danger of infection or disease from the eggs from such places for the simple reason that there "ain't any eggs," so that office will be a long time vacant.

And again I say. "Spray your coops, dip your fowls and feed your molting hens."

**Safe Dips for Poultry.**

Tobacco stems one pound (the refuse from cigar makers is just as good as anything.) Water one gallon. Put in an old kettle and bring to a boil. Have ready an old boiler or tub, the boiler being preferable on account of shape, and half fill with water, then add the tobacco tea as above, leaves and all, and dip the fowls thoroughly, wetting every feather to the skin. Hold by the feet and head, and draw the bird backwards through the liquid submerging it completely all but the head which may be quickly soused under at the last, squeeze out all the tea you can, and let the bird go into the sunshine, where it will quickly recover its equilibrium and choose a sunny spot to dry. Chicks half grown can be dipped in this with perfect safety, although it is best not to let them swallow any, if it can be helped.

Another safe dip is Creolium one part, water 50 parts, dip as above, but be careful to keep your hands in the shade while working with this, as it is apt to cause sunburn.—Mrs. Frank Metcalf.


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Can be fed damp as a mash or dry in hoppers. Feed it to your chicks up to 3 months old. Gives rapid growth and health.

It will save your grain bill, and you cannot afford to be without it.

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State V. P. Nat. S. C. B O. Club for Cal.

Coulson's

**EGG FOOD**

At this time of year the hens are apt to begin falliug off in their laying, and it is necessary for poultrymen to keep them up as long as possible. If they stop laying too early and start molting, they are likely either to take a long time over the molt, or if they molt quickly to have another molt in the late fall.

A scientifically prepared Poultry Food like COULSON'S EGG FOOD, fed at this time will help greatly to keep the hens laying up to and well into their molting time, with consequent satisfactory profit to their owners.

Remember that all egg foods are by no means alike, and it is advisable for you to buy a brand that has stood the test of time.

COULSON'S EGG FOOD is therefore what you want to give you RESULTS, and keep your flock in healthy condition for the molt.

For sale by dealers everywhere. Write for our free book "Poultry Feeding for Profit" with samples of our Poultry Food.

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Distributing Agents for Southern Cal.

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We can supply about 2000 of the following kinds: Barred Rocks, White Leghorns, Buff Orpingtons Brown Leghorns, Rhode Island Reds, and a few of Black Minorcas. All of these hens are from 10 months to 14 months old and are laying right now. We can supply a few pullets of the above at 2 months old—NO OTHER AGES for sale except what is listed above. Don't forget that we will have off a big hatch of chicks September 8th. Send for catalog.

If you need hens state EXACTLY how many you need and when, and we will make you the lowest possible price.

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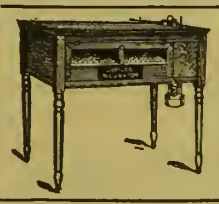

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To make room for young stock, we must dispose of a large number of our this year's breeding birds, two years old and of proven ability. We offer them in lots of twelve or more at the low price of $1.00 per head f. o. b. Riverside.

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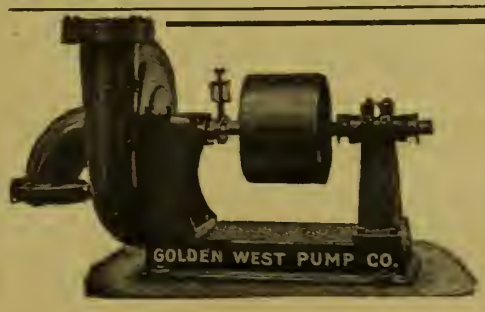


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Centrifugal and Deep Well Pumps, Foot, Check and Flap Valves, Long Sweep Flanged Elbows, Pipe and Casing Flanges, Pipe Saddles, Pipe Clamps, Etc.

Write for prices.

# Irrigation and Forestry

### DRY FARMING CONGRESS.

SECRETARY John T. Burns today issued the official call for the fourth annual session of the Dry Farming Congress, to be held at Billings, Montana, October 26-27-28, 1909.

The congress is called: "To discuss and compare methods by which the great area of arid land can be profitably utilized under thorough tilage by which the natural rainfall can be conserved.

"To encourage the use of methods by which, in districts where rainfall is slight, or irrigation water is limited, the actual productive acreage can be increased.

"To create closer co-operation between the government and state experts in charge of dry farming experimental work and the actual farmers of the arid districts.

"To enlarge the plans for carrying on a great educational propaganda by which, eventually, the arid districts of the entire world can be populated by prosperous and contented agriculturists.

"To encourage legislation looking to increased federal and state appropriations for the establishment of more experimental stations, the employment of more field experts and the actual co-operation of all these stations in fixing and maintaining a certain recognized standard of methods for obtaining results from the operation of farms in the arid districts.

"To study methods and results of dry farming operations in the various western states and in foreign countries which are represented in the Congress.

"To establish a better understanding of the value of agricultural education in the public schools of the west.

"To bring to the attention of active farmers the various theories and working plans whereby each farmer may assist in the general commercial, social and political uplift of the western states."

### TIMBER BURNED UP PAYS NO WAGES.

DO your best to prevent forest fires.

Would you set fire to any man's house?

If you saw his house burning would you pass by without doing anything?

Do you realize that timber is quite as avaluable to the owner, and much more so to the community and to you? He can build a new house but not a new forest. As for your own interest, think over the following facts.

California has one hundred and sixty billion feet of standing timber, even now worth $400,000,000 as a resource.

If manufactured and sold, even at present lumber prices, it would bring $2,500,000,000 into the State for labor and supplies.

California sells over $20,000,000 worth of lumber a year. Of this $14,000,000 is received by employees who put it into local circulation. You share it.

About a billion feet is destroyed by fire in California every year. If manufactured it would bring in $15,000,000.

On every thousand feet burned the stumpage owner loses at least $3, but the community loses $8 in wages.

Timber means pay checks to support all industries, but burned timber pays no wages.

Timber pays taxes in your county; if it burns up another kind of property has to pay the difference.

Help prevent forest fires and you'll make more money. So will your children.

Care with small fires is the best way to prevent big ones.

Therefore, you are urged to observe the following simple rules:

Don't toss away burning matches or tobacco!

Don't make a camp fire in leaves, rotten wood, or against logs, where it may spread or you can't be sure it is out!

Always clear away all inflammable material before building your camp fire!

Never leave a fire until it is out!

Don't burn brush, grass or slashings without a permit from a Fire-Warden.

Don't operate an engine using fuel other than oil without having it equipped with a spark arrester.

Put out any fire you find if you can. If you can't, notify a Firewarden or other public officer, or the landowner. Remember that any little fire may become a big one if left alone.

All these rules but the first and last are Law, and violation of them is punishable.

Next to water, earth is the best thing to put out fire with. The best tools for fighting fire are the shovel, ax, mattock and wet sacks.—From circular issued by California State Board Forestry.

### LIGNUM-VITAE.

In view of the rapidly decreasing supply of lignum-vitae (Guajacum officinate) of the West Indies, the Philippine Bureau of Forestry conducted an investigation for the purpose of finding a wood capable of replacing it. As a result of this work, mancono (Xanthostemon verdugonianus), the hardest and heaviest of Philippine woods, is recommended as having enough good qualities to serve as a substitute for lignum-vitae. It is urged that the wood be tried by all hardwood manufacturers, since the species is found in merchantable sizes and quantity and can be cheaply exploited.

One official test of this wood was made by the U. S. Naval Station at Cavite, in which it was installed in a launch as a bearing for journals rotating in salt water, and was found to be but little worn at the end of seven months. It is considered to be the equal of lignum-vitae when both woods are used for bearings on side grain.

An alfalfa mill recently destroyed by fire near Tehama is to be rebuilt.


# The Ames Continuous Flow Deep Well Pumps

**Deliver a continuous stream from lower end of cylinder in well to point of discharge. They run continuously day and night without care or attention except to oil.**

All of the valves or working parts of both our single and double acting pumps can be removed, repaired and replaced without pulling up the cylinder or heavy column pipe or moving the power head off of its foundation.

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# AMERICAN SURFACE IRRIGATION PIPE

***SAVES WATER, GRADING AND TIME***

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties. We make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let **us prove** to you that **we make Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

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FORMERLY TALLERDAY MANUFACTURING COMPANY

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# Bees and Their Care

By Henry E. Horn, Riverside

### PRACTICAL INSTRUCTIONS FOR BEGINNERS.

ONE day in June, 1876, my younger brother and sister coming from school saw a swarm of bees fly overhead. I can remember it as well as though it were yesterday, how I found fault with them for not telling me until after the swarm was out of sight. Probably fifteen or twenty minutes had elapsed after the bees had passed over the road; and since colonies in movable-frame hives were worth $10.00 in those days, and since I had had the bee fever for some two years, I made up my mind to locate that swarm. I was shown where it crossed the road and the direction it took. Before I had gone into the woods ten rods I heard the bees entering a tree, and I soon saw them, for many were still on the outside, while others were circling around making a great noise. They entered a limb well up toward the top of a large elm.

That night I asked a bee-keeper when it would be best to transfer the bees from the tree to a frame hive, and he told me that I could do no better than to do it immediately, for the reason that, if the tree were felled before the bees had time to build any comb they could be hived like a natural swarm, without the inconvenience of transferring sticky combs, etc. A third of a century has elapsed since this took place; and if I were asked today how to manage in such a case I would give the same answer that this bee-keeper gave me. Well, the tree was cut while the bees were flying during the next day; and although their entrance had been 60 feet from the ground not a bee was lost; for as soon as those in the tree started into the new hive, all of the bees heard the "homing hum" and entered the new hive with the rest.

As soon as the tree was down, and before the bees got over being demoralized, the bee-keeper who was helping me ran toward the top of the tree; and as soon as he could locate the entrance he smoked the bees so that they could be handled without fear of stings. By sawing in on each side of the entrance, and splitting off a portion of the limb, we opened the cavity where the bees were. The hive was then placed with the entrance as near as possible to the part where most of the bees were, and with a tin dipper the greater part of them were dipped up and emptied at the hive entrance. By the time we had most of the bees dipped out of the tree in front of the new hive there was this loud "homing" call as the bees commenced running in. At this point of the procedure the few bees that were left in the tree were smoked until they took wing, and then we stepped back so as to be out of the way. All of the flying bees, attracted by the loud hum, soon entered the new hive, which was moved home that night when all flying was over for the day.

It occurs to me to mention here the fact that any beginner noticing a swarm issuing should not rush off to a neighbor for a hive, leaving the swarm clustered, for, as likely as not, the bees will be gone on his return. The better way is to hive them in a soap-box or anything else, for that matter, that can be used temporarily, and, when hived, the box should be set on the stand where it is to remain until the new hive can be brought. Then, as soon as the new hive is obtained, he should go to the swarm in the box and blow some smoke in at the entrance in order to avoid stings. (A beginner should wear a veil until he is thoroughly acquainted with the bees, simply so that he will not be nervous.)

As soon as the new hive is ready the box should be removed from the stand and the empty hive set in its place, with a board slanting up from the ground to the entrance. Now the swarm may be hived just as though it still hung on the tree or limb where it clustered at first. By carefully lifting the box off the bottom-board, and carrying it to the new hive, most of the bees can be shaken out on to the alighting-board with a quick jerk, and they will run in just as though they had been shaken from a limb.

To return to my swarm taken out of the tree, I will simply say that it was divided that season, both colonies gathering sufficient honey to winter well.

#### Tools For Bee-Keepers.

An indispensable tool in the apiary is a good smoker. After using all of the different sizes of smokers made I recommend the larger sizes as being far superior to the smaller ones. A smoker of the 3½ or 4-inch size is the proper one to buy. They cost a trifle more than the smaller ones, but this extra cost is offset many times, for they burn longer and give off a more dense smoke; in fact, there is no argument that can be advanced in favor of the small smoker. A common mistake that most beginners make is to buy small or cheap tools and hives. I believe that the main reason why the eight-frame hive is more universally used than the ten-frame is because the first cost is less, and those who start with the eight-frame hesitate to make the change.

#### How Many Colonies To Start With.

The first things to decide upon are the number of colonies to buy, the size of hives, and the season of the year when the start should be made. When I began bee-keeping, many of the colonies around me were in hives of a size and style not to my liking; in fact, there was no standard frame in use then as there is now, and the beginner simply followed some one of the leading honey-producers, adopting his hive and frame. All these things are now changed, and the beginner will have no trouble in finding bees in hives containing regular Langstroth frames. This frame has more points in its favor than any other at the present time, and I would advise the beginner to adopt it.

There is a great diversity of opinion as to the proper number of frames to use in a hive. The majority use eight frames; but quite a number use ten frames to the hive, and a few think that twelve frames are none too many for the best results. It is not the intention of this article to go into the discussion of the hive question; but if the beginner will take my advice he will adopt the ten frame hive for the production of comb honey, but especially for extracted honey.

After deciding on the size of hive it is important to get the right number of colonies to start with. Beginners should understand from the first that there is much to learn, and that the first few years will be largely experimental, so that not much money will be made at first. The experience can be acquired about as well with a few colonies as with a large number, and the expense is much less. When starting on a small scale, the increase of bees and experience go together.

It is noticeable that those who have gone into the bee business on a large scale from the very first, without making an effort to get the necessary experience, have usually turned their attention to something else in a few years, usually going back to what they did before. This is the natural thing; for since they knew nothing about the producing of a paying crop of honey the venture proves a failure.

I would recommend at the start from two to four colonies, whether the beginner has much capital or not. I do not think that one without experience can go into this business and depend upon hired experienced help to do the work, for he must know the details himself before he can manage others in such a way as to make a financial success of his plans.—Gleanings.


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Capital and Reserve, $1,300,000.00
Resources, over $23,000,000.00
Over 50,000 Depositors

4% Interest on Savings Accounts
And on Six Month's Certificates of Deposit

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Which accounts MAY BE CHECKED AGAINST without presentation of pass-book. Interest is paid monthly on the minimum monthly balances.

Bee Supplies

For the Pacific Coast

We are the exclusive agents for the A. I. Root Co., Medina, Ohio. Our hives are manufactured from selected California Sugar Pine. Branch houses at Los Angeles and Elk Grove, Cal. Write for Catalog. We also manufacture orange, fruit and packing shook, drying trays, etc. Beeswax wanted.

Madary's Planing Mill,
Fresno, California

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Now is the time for your friends to join in the great Home-seekers Movement to California

Great opportunities are opening in this "Empire of the Pacific"—California. Climate is not all to claim pre-eminence as a homeseekers' paradise. The industrious will find rewards equal to their energies—the State is varied in resources—you'll find your place quickly. Now's the time to go, while rates are low for settlers.

$33 from Chicago.
$32 from St. Louis and New Orleans
$25 from Kansas City, Omaha and Missouri River Points.

Travel the way of safety—the route that lands you in any part of California—Stop overs in any part of the State.

Low Rates are on Sept. 15 to Oct. 15

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**Profitable Poultry**

A high or low death rate is usually the difference between successful and unsuccessful poultry raising.

REX Flintkote ROOFING is used for roofs and sidings on profitable poultry plants, because it keeps the houses warm and dry, with even temperature and humidity.

As a result, fewer chickens are lost and the layers are more productive in poultry houses covered with

**REX FLINTKOTE ROOFING**

This roofing is fire-resisting, rain and snow-proof, and very durable. REX Flintkote ROOFING affords more kinds of protection to your buildings and their contents than any other roofing. Everything needed in laying comes with the roll—any laborer can lay it.

**SEND FOR FREE SAMPLES**

Let us send you free samples to test, and our roofing booklet.

**J. A. & W. BIRD & CO.,**
89 India Street, Boston, Mass.
Pacino Coast Agents: W. P. FULLER & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.

Napa County is to have a Vintage Festival on September 9th.

# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Pasteurized Cream.

What is Pasteurized cream? How is it effected?—G., San Diego.

There are several small pasteurizing outfits on the market that are used for milk intended for the baby. Then there are large steam outfits used in the creameries. One can readily be improvised in any kitchen. Secure several glass jars and after scalding them well, bake them dry in the oven. Put in the cream and tie a piece of absorbent cotton over the top to act as a filter for the air. The jars are then stood in a deep vessel on wooden slats, to prevent them coming in direct contact with the heat. Pour in cold water around them, set the vessel on the stove, bring the water up to the temperature of 150 degrees. Set the vessel off the stove and cover it closely for an hour. Then add cold water to the hot until the jars are cool enough to handle. Lift them out and chill as quickly as possible down to 50 degrees and hold the temperature there. Each day's cream is pasteurized at once and left in the jar with the cotton tied over top, until twenty-four or less hours before churning time. Then the cream is stirred into a can and well mixed, the starter added to it and the temperature raised to eighty degrees and held there until the cream has developed a sprightly acid taste, when it is cooled down at once to churning temperature and made into butter. The simplest starter is made by taking fresh milk, sweet skimmed will do if the cream has been run through a separator. Place it where it is held at eighty degrees until clabbered and use a starter at once. A starter of buttermilk is some times used but it must be kept very cold in order not to be over ripe when introduced into the pasteurized cream. A starter must be used if the butter is to be made from ripened cream, as the lactic acid bacteria have been destroyed in the cream and it will simply not sour, but turn bitter and rancid.—M. E. S.

Bailey's Cyclopedia Says:

Pasteurization is the destruction by heat of a large proportion of the micro-organisms in milk. The principal advantage of this treatment, from the commercial standpoint, is the improvement resulting in the keeping quality of the milk. From the standpoint of the hygienist, the advantage of pasteurization is chiefly in the fact that this treatment can be depended upon to destroy pathogenic organisms.

The chief value of pasteurization is at times when there is a general outbreak of a contagious disease, when it is not known but that persons handling the milk are affected with the disease. In all such cases the milk should be pasteurized, and after treatment, protected with the utmost care to assure no further infection.

Probably the most resistant of organisms that are likely to be in milk is the bacillus of tuberculosis. To kill these germs, milk must be heated to 150 degrees for thirty minutes, or 157 degrees for fifteen minutes, or 167 degrees for ten minutes, or to 180 degrees momentarily. It has lately been shown, however, by Smith and Russell, that it is sufficient to heat the milk only to 140 degrees for twenty minutes, provided it is heated in closed receptacles. For market-milk purposes, this lower temperature is preferred because it is not accompanied by the cooked flavor, which is objectionable to many persons.

An essential part of the work of pasteurization consists in cooling the milk. The operation really is not completed until the milk has been cooled to a point below 50 degrees, at which bacteria grow but slowly.

### Erinose.

Please let me know through the Cultivator what is the trouble with the enclosed grape vine leaf showing brown appearance on the under side. This shows on only one vine. I wish to know if it is a serious matter and how to control it.—62, Orangevale.

This was referred to Prof. R. E. Smith of the Southern California Pathological Laboratory. He writes: "I would say that the vine leaf is affected with the trouble called "Erinose." This is caused by a very minute insect which infests the under side of the leaf and causes the characteristic effect. This is not usually a very serious matter, but may be treated with dry sulphur similarly as in the case of mildew, if it seems to be getting too abundant."

### Sunburn.

I send bunch of grapes dead and decaying on the upper side. They are somewhat worse on the top of the vine, but also show the same trouble underneath. What is the cause and remedy?—C. W. A., Los Angeles.

This bunch of grapes was sent to Prof. Smith at the Pathological Laboratory, but being away, the query was answered by Mr. C. O. Smith, assistant plant pathologist, as follows:

The parcel containing the diseased grapes was received as well as the letter to Professor Smith concerning them. Prof. Smith is at present in the northern part of the state, but will return in a few days. The trouble is without doubt what is known as sunburn. I find no fungus or anything of a parasitic nature.

### Ants on Plants.

What can I do to get rid of ants on cosmos plants? They have eaten nearly all my plants. I have used an ant poison, but it killed the cosmos. The ants eat the new shoots near the tops, not at the roots.—E. G. S., Los Angeles.

We believe this is caused by the aphis taking the vitality of the plants at the tops. The ants are attracted to the plants by the aphis. At least, we have never known of ants eating the tops of plants to any serious extent. If a kerosene emulsion or tobacco spray of some kind is applied to the aphis which are working at the tips of the shoots, we believe the trouble will disappear. If you wish to destroy the ants and they can be traced back to their holes, a little carbon bisulphide poured down each hole, the hole then being covered with a wet sack, will probably finish them.

### THE AUSTRALIAN SALT BUSH.

The Australian Salt Bush has been strongly recommended for sections having very little rainfall and for alkali land. Dr. Wm. P. Headden, of the Colorado Experiment Station, has grown it at Fort Collins for eight years without irrigation. In one year, he found that a good yield was secured from a planting made late in June. Doctor Headden has fed the Salt Bush to sheep and horses. His conclusions are as follows:

First, when once established, it will endure drought and even make a good crop, with less than five inches of rainfall. Second, that stock will eat it or readily learn to eat it either green or as hay. Third, that it will produce very heavily under favorable conditions. Fourth, that it will, when fed alone, maintain the animals, and even better results are claimed for it. Fifth, that the hay is rich in protein, as rich or even richer than alfalfa. Sixth, that its co-efficients of digestion are excellent, except for the fat or ether extract and crude fiber. Seventh, that it has no injurious effects on the animals, even when they have no other fodder with it.

The following facts, however, remain; that it has not become popular, and that when fed alone it does not produce the results that its composition and co-efficients of digestion would seem to warrant us in expecting. There is no reason for questioning the advisability of feeding something relatively richer in carbon. It is a fact that stock will live on this fodder alone.

The horticultural commissioners of Kings County report a plentiful supply of vine hoppers that are doing some damage to the vineyards.

Kern county will produce hay and grain this year to the value of over a million and a quarter.

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Cor. Market, Eddy, and Powell Streets, San Francisco

New building, new equipment; located in the best business district. One of the lightest, most convenient and best-equipped business colleges in America. Write for information about the great opportunities offered to trained office workers in the new San Francisco.

**WHO WANTS A BABY?**

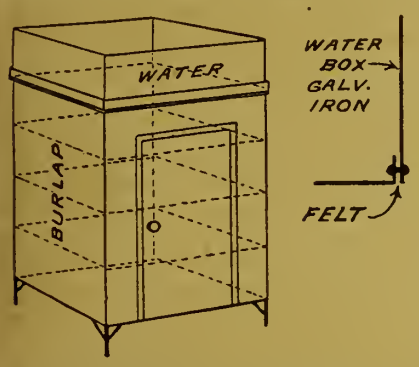
Chick, prices right now, 10c and up. After September, they will be more. Our NEXT BIG HATCH will be due September 6th, at which time we will offer for sale most all kinds of chicks, at our old prices. Order now and make a small deposit and contract for chicks at the low prices. Later the same chicks will cost you more. When the eggs get high we will positively have to raise the prices of the chicks. People that buy now get the benefit of the old price and can get the chicks when they wish. Better investigate today. Free chicks book tells all about it.

**Pioneer Hatchery Company**
*112 East Eighth Street, Los Angeles, California*

### BURLAP COOLER.

Cultivator representatives have noticed in various parts of the state the popularity of burlap cabinets used in place of refrigerators. It has also been noticed that while these useful affairs are very common in some sections of the state, they are practically unknown in others On account of this, The Cultivator will endeavor to suggest it to those unable to get ice and who appreciate the handy cool cabinet convenient to the kitchen. In some places these coolers are regularly manufactured, but in most cases it has been noted that they are the home made affairs, such as any handy man can make.

They may be of any size, but a good ordinary dimension would be 18 x 36 x 48 inches with the water box in addition on top. The frame could be made of 1 x 3 strips covered with burlap and fitted inside with three or more shelves, these shelves serving to stiffen the frame, assisting the top and bottom which should also be of inch stuff. The next thing




is the water box, the idea being to arrange some plan by which water can be kept continually running down the sides of the cooler, keeping the burlap wet. The cooler is usually placed on an airy back porch or under a tree where a breeze will cause rapid evaporation and necessarily lower temperature inside. This box may be galvanized, the bottom and sides in two parts and jointed as in the accompanying cut or it may be wooden with partially plugged holes, sufficiently close together to answer the purpose.

The whole should be raised from the ground by legs formed by the extension down of the corner posts of the frame.

A better idea of the construction is had from the small engraving given above.

### NECESSITY FOR LIME.

"Lime is one of the things most lacking in American farming land today." "You can hardly detect a trace of lime in some of our soils, and yet that the soil be properly fertile to produce the proper results, it should always have an excess of lime in it, not because lime is such an essential constituent of the plant, but because of its effect upon other constituents of the soil, and upon the nature of the soil itself. I have just told you that organic nitrogen, like dried blood, tankage and cottonseed meal, is a splendid nitrogenous fertilizer, but it must first be converted into nitric acid. Then the acid formed retards the development and the growth of bacteria. The moment these organisms begin to convert cottonseed meal into nitric acid they begin to make the soil acid, and tend to hinder their own works, and will stop it altogether in a short time, unless there is something to take charge of that acid. There is nothing so good for that as lime. Wherever there is plenty of lime to combine with this nitric acid and form nitrate of lime, nitrification will go on with the greatest vigor and the plants will have an abundant supply of nitrogen in their foods, but the very moment that lime is deficient then nitrification goes on with diminished speed and finally stops altogether. That is one of the essential reasons for the usefulness of lime.

"You may wonder why the lands in England that have been under cultivation for so many hundreds of years are still so fertile, and you wonder why they do not grow acid, and why the bacterial organisms do not cease to work. The reason is that the great part of England is chalk. At the grounds of the great agricultural station in England you can pick up lumps of chalk all through the soil, and if you pour a little acid on that soil it effervesces like water from a soda fountain. Now there is a soil which you can manure with barnyard manure for an indefinite time and still you will never make it acid, and still you will have nitrification going on with vigor.

"I say that our farmers must learn to use lime. The beet farmers have an excess of lime in the refuse of their factories. Thousands of tons of lime cake are thrown out every year, every pound of which is specially valuable and should be carefully preserved and placed back on the fields; and if that is not enough, they should buy lime if necessary, if they have not got limestone on their own land. It is not necessary for it to be burned, except that it is the most convenient way of reducing it to a powder; but ground limestone or ground chalk is just as efficacious. Our people are only awakening to the fact that they must have lime, and have it in abundance.—H. W. Wiley in address before Beet Sugar Association.

## Veterinary

**Answers in this column by Dr. R. T. Whittlesey, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.**

**Cocked Ankle.**

Is there any cure for what is known as "cockled ankle" or "cocked ankle?" The horse is young and in fine condition. Another horse has swollen legs, due partly to standing in the barn, but I think his circulation is poor or sluggish. What would you suggest as a remedy?—H. F. C.

This arises from a weakness of the parts, often from being worked too young. Would suggest shoeing with calks on heels and none on toes of shoes. The idea of this is to rest the tendons and ligaments in the back of the ankle. Then blister the ankle with Gombaults Caustic Balsam.—R. T. W.

**Side Bones.**

I have a horse 11 years old that has been lame in nigh, forward foot for the past week. Only trouble I can find is a hard slight swelling at crown of foot on outside. Can this be ringbone forming, if so what treatment can I use. Is there any medicine or liniment that will disolve this if taken now?—C. E. Crows Landing.

It may be a ringbone but is more likely a side-bone, which is an ossification of the lateral cartilages.

Firing with pointed firing irons is good treatment in either case.

If it is side-bone the thinning of the wall under this swelling from top of hoof to near the bottom will be advantageous. File until it will dent easily under pressure of the thumb, then poultice.—R. T. W.

**DR. WHITTLESEY'S VETERINARY REMEDIES.**

These are not ordinary mixtures but are from well tried formulas, used in an extensive practice in Southern California for nearly a quarter of a century. Dr. Whittlesey's Sulphur Arsenical Salve for deep fistulous or ordinary chronic, indolent sores such as, "Poll Evil," "Fistulas," "Quittors," "Thrush," "Scratches," "Warts," "Cellar sores" or "Sit-fasts." $1.00 per package postpaid. Printed directions. Dr. Whittlesey's Antiseptic Healing Powder. Forms a coating over raw surfaces, excludes air, flies and floating germs. Makes a cheap and convenient dressing for the many sores that occur to stock on the ranch. $1 full pound can postpaid.

DR. R. T. WHITTLESEY.
Veterinary Hospital, 714 East Seventh St., Los Angeles, Cal.

## Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

**MISCELLANEOUS.**

HOME CANNING OUTFIT JUST LIKE factory canneries. As simple to operate as the open dishpan. When prices are low and fruit and vegetables are going to waste, save it all by canning and then you can hold for better prices. A book of instructions of how to can corn, peas, beans, etc., how to make and can all kinds fruits and jams, etc., goes with each outfit. Send your name so I can tell you all about it. M. HILTON SMITH, Alice, Texas.

FORTUNES IN SUGAR—STOCK FOR sale in a new sugar cane plantation. Small monthly payments will secure for you an interst in this great enterprise, that will pay you an annual income for life. Write for booklet, LOS HORCONES PLANTATION CO., 724 Grosse Building, Los Angeles, Cal.

THE PEERLESS HONE MAKES ANY old razor shave like a new one. Anybody can use it; everybody will use it. No strap necessary. $1.00 postpaid. Agents wanted. PEERLESS HONE CO., 397 Whitney Ave., Los Angeles, Cal.

EDISON PHONOGRAPHS. THE NEW kind, the best entertainers on earth. We deliver free. Ask for catalog, full line of records. COLUMBIA COMMERCIAL CO., 204 East 9th St., Los Angeles, Cal.

FOR SALE—SMALL DRYING PLANT, trays, cars, wheels, picking boxes. L. N. or KEITH SUYDAM, Glendora, Cal.

**RUBBER STAMPS.**

SEND IN YOUR ORDERS FOR RUBber stamps, dies, stencils, etc. Catalogue on request. F. W. HOPKINS PTG. CO., 641 S. Main St., Los Angeles, Cal.

**SITUATIONS WANTED.**

A FARMER, UP-TO-DATE AND A hustler, wants place as foreman or superintendent. Is thorough in general farming, irrigation, vine and deciduous fruit growing. Experienced in working all kinds of labor, both tenant and wage systems. Address Box H, California Cultivator.

**SEED POTATOES.**

FOR SALE—SELECTED BURBANKS, eastern stock, 75c per 100 lbs. F.O.B. Anaheim. Tell Sunset Sub. 1158. HUNT RANCH, Anaheim, Cal.

**POULTRY.**

CORNISH FOWLS EXCLUSIVELY—The best for the table and for crossing. Beautiful and docile. Write for prices. Eggs $3.00 a setting. JOHN D. MERCER, 104 West First St., Los Angeles, Cal.

PARTRIDGE WYANDOTTES—C. Andrews, 823 W. Franklin Ave., Hollywood, Cal.—1st cock, hen, cockerel and pullet; 2 cups, Poultry Breeders' Show, 1908.

FOR SALE—FIFTY SELECTED THOROughbred Single Comb White Leghorn cockerels, price $1.00 and up. D. CLAYTON, Colusa, Cal.

PIT GAMES—SOUTHERN AND GRADE Japs. O. L. CRANE, Route 3, Santa Rosa, Cal.

**HARNESS.**

THE MOST RELIABLE HARNESS manufacturers in San Francisco will make to your order any kind of harness you may want from the best stock, at wholesale rates, all goods guaranteed as represented, or money returned. We carry large stock of our make harness on hand for immediate shipment. Write for catalogue. LASTUFKA BROS. & CO., 1659-61 Market St., San Francisco, Cal.

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SAGE HONEY, GUARANTEED ABSOlutely pure. One 5 gal. can, crated, f.o.b., $4.25, two 5 gal. cans, crated, f.o.b., $8.00. HENRY E. HORN. Riverside, Cal.

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FOR SALE—10 FT. STEEL AERMOtor 40 ft. 4 legged tower, 5000 R. W. tank pipe—pump complete $75; sawmill outfit; 4 h.p. engine, deep well pump—pipe and cylinder complete, almost brand new, $175 f.o.b.; 10 ft. mill tower—3000 R.W. tank, 16 ft. stand, pipe and pump complete, $49 ready to haul, another without stand f.o.b. $39: Smith Premier typewriter A. 1, $22; pipe, engines, farm machinery. Save you half. DEMMITT CO., 130 N. Main, Los Angeles, Cal.

FOR EXCHANGE—ONE 10 X 10 BELT driven air compressor. Good as new. MACHINERY EXCHANGE, Main & Bruno Sts., Los Angeles, Cal.

FOR EXCHANGE—ALL OUR SMALL gas engines at bargain prices to make room for larger sizes. BAILIE & BRANDT COMPANY, 943-945 North Main St., Los Angeles, Cal.

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FOR SALE — STRONG OUTDOOR grown rooted cuttings. Send for 1-2-3 cent list. Other plants. Fine lot Blue Gums qt. tins—3 to 4 ft. GEM NURSERY, Los Gatos. Cal.

**RARE PLANTS.**

WILD PLANT IMPROVEMENT GARdens, Santa Ana, California, NEWTON B. PIERCE, Proprietor. Rare, choice ornamentals and new fruits from all lands.

A. L. HARMON, COMMERCIAL PLANT grower, Begonias, Roses, Ferns, Bedding and Vegetable Plants. Write for prices. Cor. Glen Ave. and Crosby St., Pasadena Cal., R. F. D. No. 1.

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YOU MAKE MONEY BY FEEDING fresh pulp at fifty cents per ton, f.o.o. cars or wagon. Also molasses $1.50 per barrel. LOS ALAMITOS SUGAR COMPANY, Los Alamitos, California.

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SPECIAL—FOR SALE, HOLSTEIN bulls, two old enough for service and a number of yearlings. Also a few calves that are small enough to crate. Julianas, De Kols and all the strains for which this herd has been famous are represented. The only cows to hold World Records raised in the state were bred on this ranch. Same blood still represented largely in the herd. MINNEWAWA STOCK FARM, Fresno, Cal.

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HAVE YOU A BOY? IF NOT, LET us send you one. We want country homes for boys of all ages. Arrangements to suit. CHILDRENS' HOME SOCIETY, 2414 Griffith Ave., Los Angeles. Cal.

**FERTILIZERS.**

NOW IS THE TIME
to fertilize for results in the coming crop.

ARMOUR'S "O.T.M.", "B.B.&P.", and "5-8-2" grow big crops and build up the soil. They have been doing it for years.
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SHOPPING BY MAIL—PURCHASE through us. We do your shopping and look after your business matters in Los Angeles. Ask about our telegraphy course by mail. Instruments free. COLUMBIA COMMERCIAL COMPANY, 204 East 9th St., Los Angeles, Cal.

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REGISTERED BERKSHIRE AND POland China hogs, both sexes. C. A. STOWE, Stockton, Cal.

COULSON'S POULTRY FOODS
MADE IN PETALUMA
GUARANTEED
SOLD EVERYWHERE

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**Not a Substitute, but a Genuine Sardine**

They have all the old time Sardine qualities. Delicious in flavor, a wholesome, nutritious food. You will prefer them to any you have ever eaten.

**PROFESSOR DAVID STARR JORDAN,** President of Leland Stanford University The leading authority on fishes of the Pacific Coast, writes of the California Sardines, in "Fishery Industries of the United States," 1894, page 569: "This species is everywhere known as the Sardine or by the Italians as Sardinea." It is in fact almost identical with the sardine of Europe.

**Your Only Protection**

against substitution lies in becoming acquainted with our brands.

**Don't Ask for a Can of Sardines or California Sardines**

But ask for any of the following brands and insist upon getting them:

**Put Up Only Under These Brands**

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| Goldfish | Ravigote | La Rouchelle |
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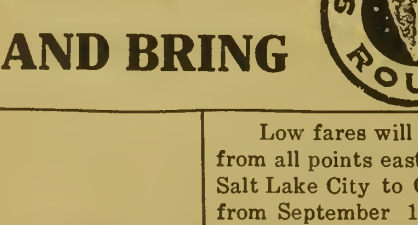
If your grocer does not carry them in stock write us.



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The only Cannery of Genuine Sardines in America that is operated 12 months in the year in the same line of business.

**Five Colored California Post Cards Free**

**California Fish Co.**
116 Henne Bldg.
Los Angeles, Cal.



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SLUMBERLAND is synonymous with sleep. We want you to remember it as the name of the best mattress on the market, —the antidote for insomnia.

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SLUMBERLAND is made of the choicest materials,—under hygienic conditions which insure perfect sanitation. Constructed by the best mattress makers, it appeals to the tired body,—and the price is within the reach of all. It comes in all sizes.

Prices respectively, $16, $18, and $20.

**PEASE BRO'S.**
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Low fares will again be in effect from all points east of and including Salt Lake City to California points, from September 15 to October 15.

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about these low rates

**FROM the EAST**
VIA
**SALT LAKE ROUTE**


# Household Department

## KEEP YOUR GRIT.

Hang on! Cling on! No matter what they say:
Push on! Sing on! Things will come your way.
Sitting down and whining never helps a bit;
Best way to get there is by keeping up your grit.
Don't give up hoping when the ship goes down
Grab a spar or something—just refuse to drown.
Don't think you're dying just because you're hit;
Smile in face of danger and hang to your grit.
Folks die too easy—they sort of fade away;
Make a little error, and give up in dismay.
Kind of man that's needed is the man with ready wit.
To laugh at pain and trouble and keep his grit.—Ex.

## STANDING GUARD

(Scene, the sunny veranda of a golf club on one of the rare warm spring days. On the top step sits a pretty girl and on her outspread skirt placidly sits a bulldog. He is an extremely ugly, strong-jawed, healthy looking specimen of his kind, and he stares out over the rolling links in superb indifference. The girl suddenly looks at him with a little frown.)

She—"I wish Ted had remembered to take this creature with him when he was called to the telephone! I'm not exactly afraid of him, but—he makes me nervous! I can't get away and there comes Sam Ponsonby!"

Ponsonby (who approaches with an air of triumph)—"Oh, there you are! I've been looking everywhere—thought I saw you drive in. Won't you go around with me?"

She (reluctantly)—"Why—er—that is—thank you!" (Aside.) "Ted didn't really ask me to play and maybe he isn't coming back, and I can sit here all day!" (She attempts to rise, but the bulldog remains a dead weight on her skirt.)

Ponsonby (snapping his fingers at the dog)—"Here, now! Clear off!" (The bulldog does not even look at him.)

Ponsonby (with an ingratiating whistle)—"Good doggie! Good doggie! Come on, Sport!

She (helplessly)—"His name is Nebuchadnezzar, and he doesn't answer to anything shorter. Won't you please move Nebuchadnezzar?"

(The dog gives her a swift, friendly glance and resumes his meditations.)

Ponsonby (nervously)—"This is absurd! Whose beast is it? I might have known that no one but Ted Bradford would be so inconsiderate of a lady's feelings and—and possible inclination! Get out of here, Nebuchadnezzar!"

Bulldog (sotto voice)—"Gr-r-r-r-r!"

She—"Look out! He's dangerous!"

Ponsonby (walking around the dog and the girl)—"They shouldn't let Bradford bring a bad-tempered brute here! It's against the rules, I'm sure. It ought to be reported! Here we're losing good time and—and everything! Can't you do something? He seems to know you!"

She (with innocently wide eyes—"Why, you're not afraid of him, are you, Mr. Ponsonby? I didn't think—"

Ponsonby (goaded to daring, flicks at the dog with his driver)—"Afraid! I! I merely hesieated to arouse his evil temper when he is so near you. He might bite!"

Bulldog (turning on Ponsonby and showing a row of long white teeth)—"G-r-r-r-r! Wooft.

She, shrinking)—", don't. You see? Nebuchadnezzar, listen! I love you, but please run away!"

Ponsonby—"Nice boy! Come, get a bone! You try to pull away from him while I distract him! Nice boy! Nice bone! Nice—

Bulldog (moving heavily over so that he leans against the girl and regarding Ponsonby with extreme disgust)—"Woof-woof. Gr-r-ack!"

Ponsonby (very red in the face)—"I don't know what you think about it, but my opinion is that Bradford ought to be brought up before the committee for this! Why, you might be eaten alive, or—"

She—"No. Nebuchadnezzar seems friendly enough to me! Bou you're losing your game! Do go on—and find some one else to play with you!"

Ponsonby (heroically)—"And desert you with this—this monster keeping you a prisoner? You might have to sit here forever! Where is Bradford, anyhow?"

She (forlornly)—"He was called to the telephone. Business, you know!"

Ponsonby—"He's probably forgotten all about you and gone into the city or something! He has no manners! What any one can see in—here, Nebuchad—"

Bulldog smiling)—"Yp! Yp! Gr-r-r! Woof!"

Ponsonby (leaning against a post)—"Well, what on earth are you going to do?"

She—"What on earth can I do? Do it yourself! If you really wanted me to go around with you you'd do something. Why, you're ten times as big as Nebuchadnezzar!"

Ponsonby (aghast at her cruelty)—"But—but—look at his teeth! I haven't teeth like that! And you know I want you to go around with me! I always want you to go around with me! I always want you, but you're always busy with some one else or —"

(A tall, good-looking young man strolls out of the door at this juncture. He is smiling as one whose forethought has worked out a situation in the way he had hoped. At his whistle the bulldog springs up and rushes to him."

Bradford—"Ulio, Ponsonby! I'm sorry I was so long, Sue. Come on, now for our round!"

Ponsonby (hands in his pocket, feet outspread on top step, watching the pretty girl and his rival walking away, the bulldog trotting behind)—"If I thought Bradford did that on purpose I—I'd—heavens! I wish I had Nebuchadnezzar's teeth!"—Universal Magazine.

## REMEMBER THE BIRTHDAYS.

One of the saddest things in life is to look back on a childhood devoid of all the little attentions every child should have. One of the best and happiest experiences to an adult is to cali up the memories of by-gone holidays, made bright by a mother's care and forethought. Since it takes so little to make children happy a long, long time, it is too bad that ever a little boy or girl goes without good times and gifts on Christmas and birthdays and Easter. Especially on the farm, where a birthday treat is only a matter of a little extra work, does it seem unpardonable that the

natal day should be just like a common, ordinary day.

A very busy mother who, in addition to her own cares, had special duties to perform for two aged people in the family, always made it a point to have a cake for each member of the family on the birthdays. For the baby, it was a pretty little one covered with white icing and decorated with as many fat chocolates as years, no candles were used in the family for fear of accidents, and for each member, some distinctive touch. One of the boys liked an elaborate design in red peppermints and somebody else demanded pink frosting, but each and every one had a birthday cake if nothing else. Often there were little homemade or purchased gifts, though money was not plentiful in that home but if there were none the cake still reminded the favored one that mother delighted to remember his advent into the world.

In another home where nearly all the birthdays come in pleasant weather there are picnics, fishing, frolics and nutting parties to celebrate the great events. The whole family unite in a good time with a delicious dinner, so that whether there are presents or not, every birthday is looked forward to with keen anticipation, and remembered long afterward with pleasure Of course, if all the birthdays came in winter this would be out of the question, but other delights could be planed. No matter how much work is to be done on the farm, there should be some holidays for every one in the family, and birthdays furnish these convenient occasions.

Still another mother allows the children to choose their birthday joys. To be sure they must stay within reason, but children seldom want unreasonable things, unless they are badly spoiled Once it was a taffy-pulling, once a picnic, once a family dinner, once a little excursion to a nearby city, and so on through the list, all simple pleasures, and all within the reach of the parents who were not rich by any means. Once the whole family combined on the mother's birthday and chose some good books and magazines they could all enjoy, and sometimes just a family feast celebrates the great day, but always there are celebrations of some sort.

In inexpensive gifts the list is almost endless. The great advantage of giving to unspoiled children is that they never count up the cost of the article, but thankfully recieve it, and treasure it long after the giver has forgotten all about it. Hair ribbons, handkerchiefs, pencils, little bottles of perfume, books, thimbles, games, pin cushions, needle books and various other trifles for the girls, and marbles, knives, balls, fishing lines, skates, cards and countless other little things appeal to the lads of the family. A little girl cherished for years a tiny bag made of a discarded silk necktie which held a thimble, thread and various other sewing materials. It drew shut with a fascinating pink ribbon and long after the silk and ribbon had faded a dull gray it still held her treasures. A little cup, a plate and tiny bowl or some such thing is hoarded for years, and occupies a large place in the child's affection, just because it was received on a birthday or Christmas.

If you can only spend five cents and bake a cake for each child, by all means do so, for the birthdays while they will be children will be very few indeed. Even a needed new dress or an apron made a little more elaborate than for other occassions will answer for a gift, and make the day a happy one. There are few farms where a chicken dinner with cake and ice cream for dessert are not possible on each birthday, and there are few fathers and mothers so poverty stricken as to be without a little money for a gift. If the birthdays are neglected it is simply neglect, not want of time and money that is responsible. Try to put yourself in the place of the child and see how it would hurt you to go to school and hear other children talking of their good times, and have to confess with shame and bitterness of heart that your own birthday passed unnoticed. Once you enter into the child's side of such questions you will have time to remember every birthday and holiday. —Farmers Tribune.

### WHAT CHARLIE HAD.

Several of the scholars had returned to Sunday school after being absent some weeks on account of illness, says the Delineator. "I had the measles," said one litle girl. "I had the mumps," said another. "So did I," said a third. The superintendent heard them and, addressing a curly-headed boy said: "Well, Charlie, you were absent, too. What did you have?"

Charlie's face blushed. He thought a moment and then sang out in high treble, "I had a little brudder!"

---

"How do you tell bad eggs?" queried the young housewife." "I never told any," replied the fresh grocery clerk, "but if I had anything to tell a bad egg I'd break it gently."—"Christian Guardian."

---

A plain drunk fell into a bath tub at the Pueblo jail and thinking he was on a sinking ship told the attendant to never mind him but save the women and children.

COOL WATER IN THE HOT SUN
"No, Mr. Sun, you can't warm the water in the Appell Water Bag."
SOUTH AFRICAN WATER BAG
THE ADAM APPELL CO.
Appell's SOUTH AFRICAN WATER BAG
Take no Substitute
Keeps water cool 48 hours or longer; in sun or shade; great boon to prospectors, surveyors, sportsmen, stockmen, farmers, teamsters, anyone exposed to dry or warm weather. Used by U. S. Gov't. Strong, light, convenient to carry. Guaranteed.
FOR SALE BY DEALERS EVERYWHERE
Made by Adam Appell Water Bag Co., Portland, Or.

THE SAVINGS AND LOAN SOCIETY
101 MONTGOMERY ST.
SAN FRANCISCO

MANY people deposit money in this bank in the name of children for their use when they become of age. All deposits bear INTEREST which compounds semi-annually. For the half year ending June 30, 1909, INTEREST was paid at the rate of

4%

THE OLDEST SAVINGS BANK IN CALIFORNIA

The home mending keeps the household scissors and shears in daily use—clipping, snipping, ripping and cutting all kinds of goods. It demands blades that stay sharp—joints that stay tight—points that stay right. The only kind for the housekeeper is

KEEN KUTTER
Scissors and Shears

made in all shapes and sizes. They are always ready to use, and easy to use, for they fit the hand and require no pressure to keep the blades together.

Look for the trademark on every pair—it guarantees good service or your money back.

This same guarantee goes with Keen Kutter Pocket-knives for men and women.

Keen Kutter Cutlery and Tools have been sold for over 40 years under this mark and motto:

*"The Recollection of Quality Remains Long After the Price is Forgotten."*—E. C. Simmons.
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If not at your dealer's, write us.

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WOULD YOU LIKE TO SLEEP ON A MATTRESS

That is guaranteed to be absolutely hygienic?
That insures healthy, comfortable sleep?
That possesses all the good qualities of the finest hair mattress at about one-half the cost?
That is made in a factory where every precaution has been taken to insure the most perfect sanitary conditions?
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That is guaranteed to give perfect satisfaction or your money promptly and cheerfully refunded?
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Will bring you a booklet describing their famous "Kapokeen" Mattress, which has all the good points mentioned and many more. Write today

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The only lamp on the market that is sold under an absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes. Here are a few of The Angle Lamp Merits:

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GREAT ECONOMY—COST LESS TO BURN than an ordinary lamp. As easy to operate as gas or electricity, and better than either. ABSOLUTELY SAFE under all conditions. Lighted and extinguished like gas. Burned HIGH or LOW like GAS without a trace of odor. And a BRILLIANT, soft, steady, shadowless light—but this you will have to see to appreciate.

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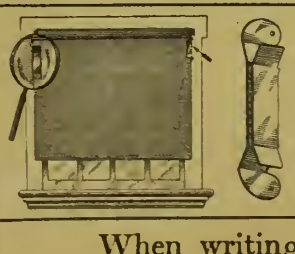

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The Hynes Shade Guides prevent shade from climbing over the roller ends and fraying its edges, and from flopping over the roller when accidentally released—so often snapping the spring. They compel the shade to roll and hang straight, adding greatly to its appearance and insuring its prolonged usefulness. Samples sent to any address.—15c a pair; 2 pair 25c.

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# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, August 25, 1909.

### Butter.

The butter market is decidedly weak and rumor says it will decline soon. Present prices are same as for past few weeks.

Creamery per roll .....60@62½
Dairy per roll .....30
Eastern creamery per lb .....30
Cooking .....25

### Cheese.

Southern California Anchor .....20
Northern fresh .....17½
Anchor Young America .....21
Domestic Swiss .....21@23
Imported Swiss .....30

### Eggs and Poultry.

Local eggs advanced a cent Monday morning and Easterns two cents. Market is firm with liberal receipts.

Paying price f. o. b. L. A. are:
Eggs .....34@37
Case count buying price .....31
Eastern .....30

Dealers pay for live poultry f. o. b. L. A.:
Hens per pound 3½ up .....15
Stags and old roosters .....7
Fryers 2 to 2¾ lbs .....15
Broilers 1¼ to 1¾ lbs .....17
Roasters 3 lbs and up .....16
Turkeys .....18@22
Geese .....12
Ducks .....12@13
Squabs .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds .....7½
Prime steers .....4@4¼
Heifers .....3½@3¾
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.25@3.50
Wethers .....4.50@5.00

### Potatoes.

Wholesale prices are:
New sweets per ctl .....2.25@2.75
Early Rose local .....1.50
Burbank local .....1.50@1.75
Highlands .....1.35

### Onions.

Wholesale quotations:
Silverskins, local .....75@1.00
Northern Yellow Danvers .....1.25
Australian Browns per sack .....1.25

### Vegetables.

Artichokes locals .....60@75
Asparagus .....4@6
Beets per sk .....90
Beans string .....2
Bell peppers .....4@5
Cabbages per sack .....65
Celery per doz .....60@90
Chili per lb .....25
Chili dried .....9@10
Cucumbers per box .....35
Cauliflower per doz .....1.35
Carrots per sk .....90
Corn per box .....40
Egg plant per lb .....4½
Green onions per doz bunches .....15
Hubbard squash per lb .....2½
Summer squash per box .....30
Lettuce choice .....60
Oyster plant .....50
Okra per lb .....5
Peas per lb .....2½
Parsley doz .....25
Parsnips .....40
Rhubarb Crimson Winter per box ..75
Radishes per doz .....15@20
Spinach per doz .....15
Turnips sk .....90
Tomatoes lugs .....40@65

### Citrus Fruits.

Valencias .....1.75
Grapefruit .....1.75@2.75
Lemons .....1.25@3.75

### Fresh Fruits.

Wholesale prices on the market are:
Apricots per lug .....35@50
Alexanders .....1.40@1.85
Gravensteins .....1.50@1.90
Casabas per crate .....1.25@1.50
Currants .....60
Cantaloupes Jumbos .....1.35
Figs .....1.00@1.25
Grapes lug box .....50@1.00
Loganberries .....3
Nectarines .....75@1.00
Peaches box .....40@75
Pears Bartletts box .....1.40
Plums .....50@90
Prunes .....60@75
Raspberries .....7@8
Blackberries .....5@6
Strawberries .....4@5
Watermelons per lb .....3¼@4

### Dried Fruits.

Wholesale prices are:
Apricots .....10
Evap apples fy per lb .....10@11
Figs loose .....5
Peaches .....5@6
Pears .....8@10
Plums pitted .....8@9
Nectarines .....7½@9
Prunes .....3@6½
RAISINS—Muscatels, 2-crown, loose, 50-lb. boxes, lb., 3½c; do., 3-crown, 4c; do., 4-crown 5c; sultanas, bleached, lb., 9c; do., unbleached, 3½@4c; new seeded raisins, 16-oz. packages, 6c; do., 12-oz. packages, 5c.

### Beans Dried.

Wholesale prices are:
Pink No. 1 .....3.50@3.75
Limas per ctl .....4.75
Black eyes .....3.50
Lady Washington .....5.50
Small White .....6.50@6.75
Garvanzas .....4.00@4.50

### Nuts.

Almonds IXL per lb .....16@18
Pecans polished .....15@17
Peanuts California .....5
Peanuts Eastern .....7
Walnuts No. 1 .....12@13
Walnuts No. 2 .....9@10
Walnuts grafted .....15

### Honey.

Wholesale quotations:
Extracted water white .....7½
Extracted Light Amber .....5½@6
Comb Water White .....15
Comb white .....14
Beeswax .....25

### Hay.

New Barley hay .....8.50@14.00
Alfalfa, local .....11.00@12.50
New alfalfa Imperial .....10.50@11.50
Northern .....10.50@12.00
Wheat hay .....10.00@13.50
Tame oat .....10.00@15.50

### Grains.

Wholesale selling price f. o. b., Los Angeles:
Wheat new per ctl .....1.95@2.00
Kaffir corn .....2.00
Corn Eastern bulk .....1.75
Egyptian corn .....1.80
White oats .....2.25
Seed Rye .....2.00

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn .....1.80
Shorts .....1.85
Bran .....1.60
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....2.00
Feed meal .....1.85
Rolled Barley .....1.50

## San Francisco Markets

SAN FRANCISCO, August 24, 1909.

### Butter.

Butter market is quiet at this writing. It began an advance on Friday and Saturday took a two cent advance.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

California extras per lb .....32
California firsts .....29
California seconds .....27½
Packing .....24½

### Cheese.

California flats .....14@16½
Cal Young America fy .....15
Young American Oregon fy .....16

### Eggs and Poultry.

Eggs have steadily advanced and now stand at 41 cents for extras. Market is firm at this time.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:
Fresh ranch .....24@41
Hens per doz .....4.50@10.00
Roosters .....4.00@9.00
Fryers per doz .....5.00@5.50
Broilers .....3.25@3.50
Geese per pair .....1.50@2.00
Ducks .....5.00@7.00
Pigeons young .....1.00@2.25

### Live Stock.

San Francisco prices gross weight:
Steers .....2¾@4¼
Cows and heifers .....2@3½
Hogs .....4½@7½
Calves per lb .....4@5¼
Milk lambs .....5¼
Wethers No. 1 .....4¼
Ewes No. 1 .....3¾

### Potatoes.

Wholesale market quotations:
New crop .....65@85
Salinas .....1.35@1.50
Sweets crates per lb .....2@2¼
Sweets sks .....1@1½

### Vegetables.

Wholesale quotations:
Asparagus per box .....50@1.00
Bell peppers per box .....35@50
Brussels sprouts per lb .....3@5
Cabbage per box .....2.00@2.25
Cauliflower doz .....75@1.00
Carrots per sk .....65@75
Cucumbers per box .....35@50
Chili peppers per box .....25@35
Corn per sk .....50@1.00
Egg plant per box .....50@65
Beans limas .....4@5
Green peas per sk .....1.25@1.50
Okra .....50@65
Onions green per box .....50@60
Rhubarb per box for bay .....1.25@1.50
Squash per box .....25@40
String beans .....1½@2½
Tomatoes .....50@1.00
Wax beans .....2@3
Lima beans .....4@5

### Onions.

Yellow .....65@75

### Citrus Fruits.

Valencias .....1.50@3.00
Grapefruit .....1.00@3.25
Lemons .....1.25@5.00
Limes .....5.50@6.00

### Fresh Fruits.

Apricots per lb .....2@3
Apples common .....50@85
Gravensteins .....1.25@1.50
Beliflowers .....1.00
Crab appies .....40@75
Cherries loose black per box .....50@65
Figs blk box .....60@85
Grapes seedless .....40@60
Tokays .....60@85
Malagas .....50@65
Rose of Peru .....50@60
Muscats .....50@75
Logans per chest .....3.00@4.00
Nectarines crate white .....40@50
Nectarines red .....75@85
Cherry plums per box .....25@35
Peaches freestones per lug box 75@1.25
Peaches per lug box clings .....50@75
Plums boxes .....40@65
Plums Tragedy crates .....60@75
Pears Bartletts .....40@1.25
Cantaloupes .....75@1.25
Nutmegs per box .....25@60
Muskmelons .....1.00@1.50
Pears box .....60@1.50
Quinces box .....50@85
Blackberries per chest .....1.50@3.00
Huckleberries per lb .....12½@13
Raspberries per chest .....4.00@8.00
Longworth per chest .....3.00@4.00
Malindas per chest .....3.00@5.00
Watermelons per doz .....1.00@3.00

### Dried Fruits.

Prunes 4-size basis .....2½
Santa Clara .....2¾
½c premium for larger sizes
Apricots per lb .....8@10
Apricots Moorparks .....11@12
Peachcs—Choice ....4½; Fancy .....6
Apples evap .....7@8½
Pears .....6@9
Figs .....2½@4
Nectarines .....5@6
Pitted Plums .....7@8
RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do, No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12, 3¾c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached. 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

Walnuts soft shell .....12½
Hard shell .....6@8½
Ne Plus Ultra .....12¾@13¼
Almonds '09 N P U .....12¾@13¼
Almonds '09 nonp .....14½
Almonds '09 I X L .....13½@14
Pecans .....15@17
Chestnuts .....2@10
Peanuts .....5@6
Pine nuts .....22½@25

### Beans Dried.

Limas .....4.10@4.25
Pink .....2.95@3.00
Small white .....7.00@7.25
Large white .....4.75@5.00
Black eyes .....3.40@3.60
Red kidneys .....3.50@3.75
Garvanzas .....3.00@3.50
Bayo .....5.00@5.25
Horse Beans .....1.90@2.10

### Hops.

Hops 1909 crop .....18@20
Hops 1908 crop .....12@15
Old .....3@8

### Honey.

White comb .....14@15
Light Amber .....10@12
Extracted W W .....7½
Extracted light amber .....6½@7
Beeswax per lb .....25@29

### Hay.

Scott, Magner & Miler say: Receipts of hay for the week just ended have been 5250 tons.

Many farmers, who apparently believe that the present market is not as good as the future may develop, have put their hay in the interior warehouses on storage. These warehouses, both public and private, in all sections are being filled rapidly, and in fact many new barns have been planned and built to receive much of this hay.

What the future may develop must depend very largely upon the kind of a season that we may have.

There has been very little hay change hands in the country during the last two weeks, for the reason that there is a marked difference of opinion between the ideas of the farmers hoiding hay and of the buyers who are in the market.

This week's quotations are:

Choice wheat hay .....17.50@18.50
No 1 wheat or wheat & oat 16.00@17.00
No 2 wheat or wheat & oat 13.50@15.00
Choice tame oat .....16.00@17.00
Other tame oat .....12.00@14.00
New crop wild .....11.00@14.00
Stock hay .....8.50@9.00
Alfalfa .....10.00@14.00
Straw .....60@75

### Grains.

Wheat No. 1 .....1.70@1.75
Barley .....1.35@1.41¼
Oats white .....1.60@1.62½
Oats gray .....2.00@2.10
Rye new crop .....1.70@1.75
Corn Egyptain .....1.60@1.65
Corn Cal sm round .....1.80@1.82½
Alfalfa seed, Cal .....16@18
Mustard brown .....3¾@4½
Millet .....
Flaxseed .....2½@3
Broom corn seed per ton .....4
.....23.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton .....39.00@40.00
Cracked corn per ton .....40.00@41.00
Rolled barley per ton .....31.00@32.00
Rolled oats per ton .....40.00@41.00
Oil cake meal per ton .....38.50@40.00
Cocoanut cake per ton .....25.00
Middlings .....36.00@37.50
Mixed feed per ton .....25.00@30.00
Shorts .....31.50@33.00

## Deciduous Market

SACRAMENTO, August 21, 1909.

The California Fruit Distributors announced the following fruit sales today in Eastern markets: Pittsburg 4 cars, Distributors 4; Minneapolis 5, Distributors 4; St. Paul 3, Distributors 3; Philadelphia 5, Distributors 4; New York 56, Distributors 35; Chicago 25, Distributors 11; St. Louis 3, Distributors 3.

The average prices received today in two of the Eastern markets are as follows:

New York—Bartletts, $3; Lovells, 65c; Dukes $1.45; Susquehannas 70c; Giants $1.40; Tokays $2.25; Seediess $1.

Chicago—Bartietts, $2.70; peaches 65c to 80c; Tokays $2.50; Malagas $1.25; Gros $1.40; Giants $1.30; Grand Dukes $1.50; Hungarians $1.40.

Some of the heaviest prices ever received in the East for California fruit are reported by the Distributors. A carload of Bartletts from Colfax brought $1,560 in New York yesterday. Other carloads of the same fruit were sold at $1,400 and $1,453. A carload of Malaga grapes from Fresno brought $2,061, while a carload from Tarpey sold for $2,051.

**First Grape Shipment.**

The first straight carload of Tokay grapes was shipped through the California Fruit Distributors by the Valley Fruit Company from Florin August 17th. This fruit was loaded in car P F E 1234.

The second car of Tokay grapes this season was shipped by the California Fruit Exchange one day later.

It was reported today the first carload of Tokay grapes was shipped on August 18th. This is incorrect, the first shipment being made by the Distributors one day previous to this, according to the statement issued this afternoon.—Sacramento Bee.

## Citrus Market

LOS ANGELES, August 25, 1909.

The orange market is showing a materialy better condition this week. It has not only held last week's advance, but taken another advance of ten or fifteen cents. Good fruit of regular sizes is now commanding $3.00 f.o.b. Eastern points, and it is hoped that this may be maintained. One factor which lends a little uncertainty to the situation is that about September 1st Eastern peaches begin to come into market, and this year's output promises to be immense. How much this will affect the citrus market cannot be said. Valencias are now going forward at the rate of 50 or 60 cars per day.

Lemons are looking still better than last week though the intensely hot weather has been somewhat modified. Foreigns are still coming in as rapidly as prior to the new tariff, but the number now leaving Mediterranean ports is decreasing. The California pickers are finding the output materialy reduced. The total shipments will not exceed 20 cars per day, and often it is not over fifteen.

**Shipments.**

Total shipments of all citrus fruits since November 1st, 1908: 35,622 cars, of which 29,914 were oranges, and 5,708 lemons.

NEW YORK, Aug. 20.—Six cars oranges sold. Market steady. Weather clear and warm.

VALENCIAS— Average
Titus Ranch San Marino .....2.70

El Toreador San Marino .....2.40
Golden Scoptre Rialto O Co .....3.35
Planet SS Ex .....2.80
On Honor Lemongrove .....2.40
Growers' Lemongrove .....2.10
Brand omitted .....2.95
E E E .....4.50
Golden Eagle Chapman .....2.80
..GRAPEFRUIT—
Old Mission .....3.75
Golden Eagle .....2.50
On Honor .....1.50
Growers .....1.05

CLEVELAND, Aug. 20.—One car valencias, 1 sweet, 1 lemon sold. Market is unchanged. Weather very cool.

| Valencias— | Average. |
|---|---|
| Don Quixote Alhambra | 2.20 |
| California Alhambra | 1.80 |
| LEMONS— | |
| Corona Beauty Corona | 2.05 |
| Grove Corona | 1.40 |

BOSTON, Aug. 20.—Two cars sold. Warm. Prices low on acount of the quality of the stock offered.

| VALENCIAS— | Average. |
|---|---|
| Planet Orange | 2.00 |
| LEMONS— | |
| Dawn SA Ex | 1.05 |

ST. LOUIS, Aug. 20.—Hot and muggy. Market firm on good stock, 6 cars sold.

| VALENCIAS— | Average. |
|---|---|
| Old Oaken Bucket Covina | 2.60 |
| Arroyo Pasadena | 2.55 |
| Old Oak Tustin Pack Co | 1.95 |
| Echo Pasadena | 2.85 |
| Purity Tustin Pack Co | 2.60 |
| LEMONS— | |
| Blue Jay OK Ex | 1.50 |
| Cry Baby Flagler F Co | 1.80 |
| Grove Corona | 1.65 |

PHILADELPHIA, Aug. 20.—Three cars valencias sold.

| VALENCIAS— | Average. |
|---|---|
| Sunset Orange | 2.00 |
| Golden Orchard Ind F Co | 2.30 |
| Citrus Belle Ind F Co | 1.50 |
| Flamingo CCU | 2.60 |
| El Toro CCU | 1.55 |

PITTSBURG, Aug. 20.—Three cars sold. Market very steady. on both valencias and lemons. Raining.

| VALENCIAS— | Average. |
|---|---|
| Volunteer | 2.55 |
| Pointer Glendora | 3.05 |
| Plain Ends Glendora | 2.15 |
| Greyhound | 2.25 |
| Hunter Glendora | 2.40 |
| GRAPEFRUIT— | |
| Volunteer | 1.55 |

CINCINNATI, Aug. 20.—Warm. Market is declining. 2 cars oranges, 2 cars lemons sold.

| LEMONS— | Average. |
|---|---|
| Corona Beauty Corona | 1.85 |
| Arab | 2.15 |
| Duck | 1.50 |
| Grove Corona | 1.25 |
| Greyhound | 2.70 |
| VALENCIAS— | |
| Owl | 1.30 |
| Rivera Rivera | 2.05 |

NEW YORK, Aug. 23.—Fourteen cars oranges and one car grapefruit sold. Market is very steady. Weather clear and favorable.

| VALENCIAS— | Average. |
|---|---|
| Champion A C Denman Sons | 2.85 |
| Climax E Peycke Co | 2.30 |
| Golden Rule Riverside Exchange | 2.65 |
| Blue Globe Riverside Ex Riverside | 2.95 |
| Butterfly Covina Ft Ex | 2.70 |
| Planet SS Exchange | 2.50 |
| Red Shield ACG Exchange | 2.55 |
| Green Crown ACG Exchange | 2.25 |
| Carmencita ST Exchange | 2.80 |
| Colombo ST Exchange | 2.60 |
| Titus Ranch San Marino GPA | 2.65 |
| El Toreador San Marino GPA | 2.35 |
| Titus Ranch San Marino GPA | 2.65 |
| Dos Palmos San Marino GPA | 2.65 |
| Triumph Cal Citrus Union | 2.90 |
| A-One E Peycke Co | 2.75 |
| Old Mission C C Chapman | 4.90 |
| Old Mission C C Chapman | 3.50 |
| Golden Eagle C C Chapman | 2.85 |
| Lady Rowena | 2.85 |
| Warrior Stewart Fruit Co | 2.30 |
| Ocean Speich & Co | 1.90 |
| Success Speich & Co | 1.75 |
| GRAPEFRUIT—Halves: | |
| Isis | 1.10 |
| Mountain Lion | 65 |
| Blue Globe | 1.25 |
| Independent (Boxes) | 95 |
| do choice | 70 |
| do standard | 65 |

ST. LOUIS, Aug. 23.—Hot; market is firm on good fruit; six cars sold.

| VALENCIAS— | Average. |
|---|---|
| Don Quixote ST Ex Alhambra | 2.40 |
| Pico ST Ex Whittier | 2.35 |
| California ST Ex | 2.10 |
| Redskin | 1.60 |
| LEMONS— | |
| Homer QC Corona | 3.05 |
| Palomar Loveless F Co Escondido | 1.55 |
| Camel QC Corona | 2.35 |
| Blue Jay OK Exchange | 1.60 |

PHILADELPHIA, Aug. 23.—Two cars of Valencias sold.

| VALENCIAS— | Average. |
|---|---|
| Stag ACG Glendora | 3.55 |
| Echo ST Pasadena | 2.80 |
| Pointer ACG Glendora | 3.05 |
| Arroyo ST Pasadena | 2.55 |

BOSTON, Aug. 23.—Four cars sold. Weather favorable. Market is strong.

| VALENCIAS— | Average. |
|---|---|
| Pointer ACG Azusa | 3.20 |
| Standard ST Rossmoyne | 2.80 |
| Extra Choice ST Rossmoyne | 3.20 |
| LEMONS— | |
| Pet SA Exchange | 3.35 |
| Greyhound SA Exchange | 3.25 |
| SWEETS— | |
| Partridge | 1.00 |

PITTSBURG, Aug. 23.—Five cars sold. Market unchanged on Valencias and lemons. Weather cool.

| VALENCIAS— | Average. |
|---|---|
| Pico ST Whittier | 2.50 |
| Blue Jay OK Exchange | 1.75 |
| Rivera ST Rivera | 2.75 |
| Owl OK Exchange | 1.95 |
| Orchard Run SA Exchange | 2.30 |
| LEMONS— | |
| Housewife (boxes) Riv Ex Arling | 2.10 |
| Foothill Riverside Ex Arlington | 1.45 |
| Housewife (cases) | 1.70 |

CINCINNATI, Aug. 23.—Weather warm. Market weak. Three cars lemons, two cars oranges sold.

| VALENCIAS— | Average. |
|---|---|
| Sunset SS Orange | 1.85 |
| Pico ST Whittier | 2.15 |
| LEMONS— | |
| On Honor Lemon Growers' FGA | 1.45 |
| Silence Flagler Fruit Co | 1.95 |
| Growers' Lemon Grove FGA | 1.55 |

CLEVELAND, Aug. 23.—Three cars Valencias and one car lemons sold. Market higher on Valencias, unchanged on lemons. Cool.

| VALENCIAS— | Average. |
|---|---|
| Pico ST Whittier | 2.40 |
| Pointer ACG Azusa | 2.95 |
| Plain Ends ACG Glendora | 1.65 |
| LEMONS— | |
| Whittier ST Whittier | 2.85 |
| Picnic ST Whittier | 55 |
| Pico ST Whittier | 2.40 |

NEW YORK, Aug. 24.—Eleven cars oranges sold. The market is very strong, active and advancing. Weather clear and favorable.

| VALENCIAS— | Average. |
|---|---|
| Old Mission fy Chapman | 5.05 |
| Golden Eagle sd Chapman | 2.70 |
| Lone Palm xc H & Willard | 2.30 |
| Beach sd H & Willard | 2.10 |
| Aurora fy or E Peycke Co | 2.70 |
| Orchard or National O Co | 2.85 |
| Standard sd National O Co | 2.55 |
| Stag ACG Ex | 4.15 |
| Pointer ACG Ex | 2.90 |
| Butterfly Covina Ex Covina | 2.85 |
| Old Oaken Bucket Covina Ex | 2.25 |
| Echo ST Ex Pasadena | 2.65 |
| Arroyo ST Ex Pasadena | 2.30 |
| Planet SS Ex Orange | 2.60 |
| Titus Ranch fy San Marino GPA | 2.70 |
| El Toreador sd San Marino GPA | 2.35 |
| Partridge or Cal Cit Union | 2.45 |
| El Toro sd Cal Cit Union | 2.35 |

GRAPEFRUIT—Stag $2.60; Old Mission $4.65; Golden Eagle $3.20; Orchard Halves $1.45.

BOSTON, Aug. 24.—Four cars sold. Weather favorable. Market is strong on valencias.

| VALENCIAS— | Average. |
|---|---|
| Red Globe Riv Ex | 2.90 |
| Quality ST Nordhoff | 3.30 |
| Whittier ST Whittier | 3.00 |
| LEMONS— | |
| Queen Bee QC Corona | 1.55 |
| Royal QC Corona | 1.05 |

Pyrethrum cinerariaefolium, the plant from which buhach powder is made, is being tested near Honolulu.

## CLIMATE IS NOT CHANGING.

One often hears the remark, "The climate is changing." This opinion is not confined to residents of Montana, who have become tired of the continued lack of warm weather and the snows and cold rains, but there are references to it in papers in the middle west and the east, says the Helena Record. Investigations by scientists have demonstrated that this opinion about the climate changing is not borne out by facts. They say that the life of man is too short to see any change in the climate of any section of the country. The weather in successive years may vary, there may be fewer months of cold and more of warm, but these are only variations, and climatic conditions—taking the average for a number of years, persist.

It is only a few years ago when the geographies marked a large area of western country as the "great American desert." What is that desert today? It is the most productive part of the country. Some will say the desert has been redeemed because the climate has changed. But that is not true. It is no longer a desert because man has found a way to make it produce. First he brought upon it the water from the streams and by giving the land a drink it became fertile. In more recent years he has found that where the moisture could not be introduced upon the land by artificial means, he could by cultivation and scientific farming conserve the natural moisture and so make it productive.

In no state has this change, not in climatic conditions, but in methods of cultivation, been more forcibly demonstrated than in Montana. Who is there who ten years ago would have said that the vast areas then given over to cattle and sheep, would in this year of our Lord be producing crops of grain averaging per acre twenty or thirty bushels more than the rich lands of the middle west? Not one. Yet there have been no distinct climatic changes. It is simply that men have learned to do things which before they did not know.—Scientific Farmer.

The Cucamonga Lemon Association has authorized a Los Angeles architect to prepare plans for a lemon packing house 100x120 feet, which it is claimed will be fire proof and afford better packing facilities than most lemon houses.

## INTERESTING EXPERIMENTS WITH WHEAT.

If wheat from the same sample were to be planted in Kansas and in California, and the results were different, the difference might be ascribed (1) to the difference in soil, (2) to the difference in climate, or (3) to both together. But if a sample of Kansas soil were to be brought to California and seeded to wheat, the difference between the two wheats grown in California must be due to the soils, since the climate is identical. Conversely any difference between Kansas-grown wheat and that grown in California on Kansas soil must be due to the climate, since the soils are the same.

Such an experiment is now being tried by the Experimental Agronomy Department at the University Farm near Davis, under a state appropriation. Two-ton samples of soil have been exchanged with Kansas and Maryland, and planted with Durum wheat; and the effects of soil and climate, respectively, upon the gluten contents of the wheat kernel are being carefully studied through collation of the results obtained at all three stations. The soil samples make plats about five feet square and three feet deep.

Conclusive results have not yet been obtained from these experiments. Even when the results are read, they will be of little immediate practical value to the individual farmer. But the Agricultural Department of the University, by correlating these investigations into the influence of soil and climate upon the composition of grains with the results of fertilizer tests, rotation experiments, and other studies, will have the necessary scientific basis from which to reason in its work of directing the agricultural development of the state. Ultimately the results of such experiments will come to the individual farmer in such form as will help him to make the fullest and most economical use of all the resources of soil and climate which are at his disposal.

A florist says the best way to water plants is to immerse the pot in water, letting it rise an inch or two above the top of the pot. When the bubbles cease to rise it is a sign that not a dry spot is left in the earth. The fault with the ordinary method of watering is said to be that the water does not thoroughly penetrate the earth, the roots remaining dry, while the top is moist. The plants should be watered only when they seem dry.


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_____1909

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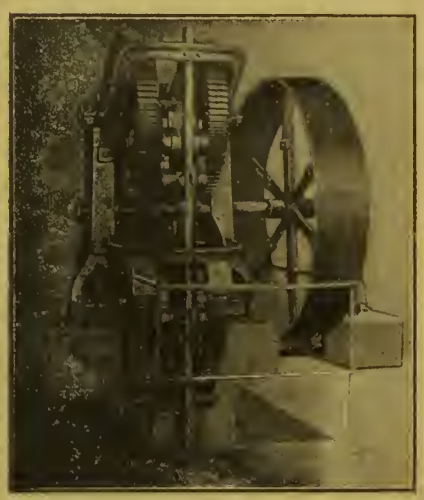

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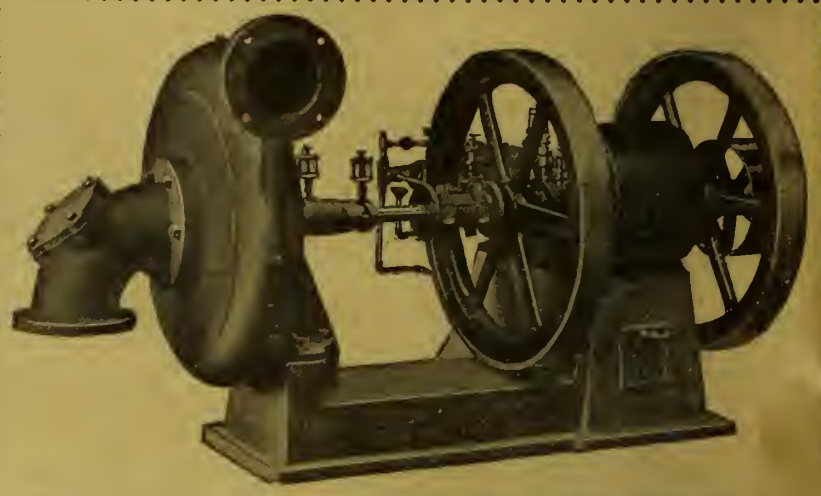

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## Smith-Booth-Usher Company

212-214 South Los Angeles Street Los Angeles, California

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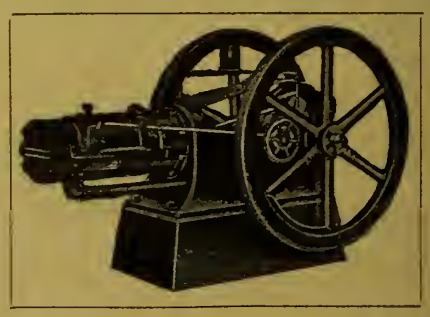
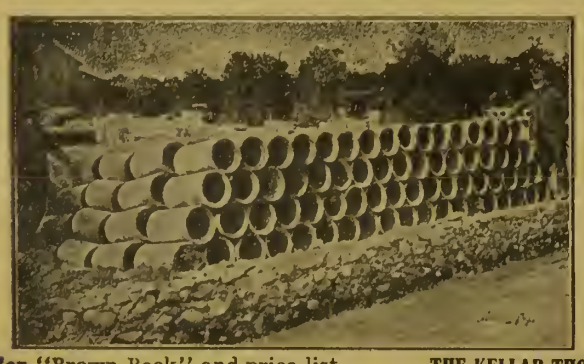
Send for Bulletin No. 12.



## COMMERCIAL ENGINE CO.

**951-955 No. Main St., Los Angeles, Cal.**



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**Ten-Inch Pipe**

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

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# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles September 2, 1909 San Francisco


# Pumping from Deep Wells for Orchard Irrigation

**The Science of Lifting Water from Great Depths Has Made Wonderful Strides in California Within the Past Few Years. Below is Given a Photo of a Thoroughly Up-to-date Plant**

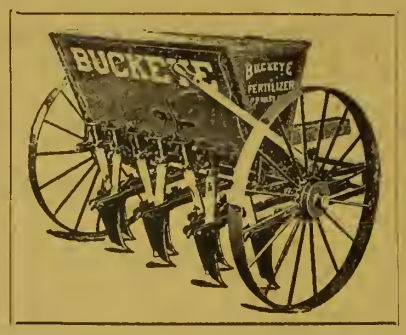
Courtesy A. T. Ames Mfg. Co., Niles, Cal.

For use in orange groves and vineyards there is nothing better than the

# Buckeye Fertilizer Drill

Set of plates furnished **FREE** with each new drill, if desired.

**For Sowing Vetch and Peas**




We have sold a great many carloads of these drills in Southern California and the Buckeye is now recognized by orange growers and fertilizer men as the best drill made for handling commercial fertilizer. Its low wheels, proper sized box, and large feed openings giving great capacity when desired, make it especialy adapted to orchard use.

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**Dr. J. Allen Osmun's**

# 20th Century Air Lift Plant

**at Rivera, California**

Which was referred to by the Cultivator, issue of August 19th.

**Was Installed by F. J. KIMBALL**

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**Why** do they use it? **Because** they are progressive enough to see that it beats everything else on the market

# Buy Fall Chicks

They are the easiest to raise, and will begin laying when the eggs are high. We will have off a BIG HATCH about September 8th, send today for price list, and full particulars. If you buy chicks now and make a small deposit you can get them any time and at the same old prices. Later when eggs get high we will have to raise the price on chicks. Hadn't you better send in your contract now and buy at the low prices while you can. Later you will pay more money for the same chicks. We are giving you a chance. Better investigate today. Our chick book is free.

## Pioneer Hatchery Company

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We can supply about 2000 of the following kinds: Barred Rocks, White Leghorns, Buff Orpingtons, Brown Leghorns, Rhode Island Reds, and a few of Black Minorcas. All of these hens are from 10 months to 14 months old and are laying right now. We can supply a few pullets of the above at 2 months old—NO OTHER AGES for sale except what is listed above. Don't forget that we will have off a big hatch of chicks September 8th. Send for catalog.

If you need hens state EXACTLY how many you need and when, and we will make you the lowest possible price.

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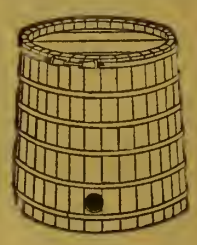

*Wine Tank*

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Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

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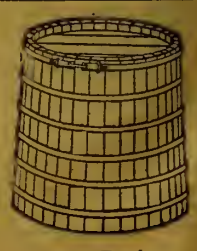

*Water Tank*

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Catalog free. ***CHICO NURSERY COMPANY, Chico, California***

# California Cultivator

Vol. XXXIII—No. 10 Los Angeles, California, Thursday, September 2, 1909 Subscription $1 a Year

# Eucalypts Valuable for Ornamental Purposes

A List of Desirable Ornamental Eucalypts. Written for the Cultivator

By LEONARD COATES of Morganhill

AMIDST all the literature published on that most useful species, the Eucalyptus, the great value of these trees for ornamental purposes is almost overshadowed in the overwhelming testimony on the strictly economic standpoint.

Southern California is far ahead of the more northern portions of the state in the matter of the study and practise of landscape gardening, and especially so in the knowledge and selection of those trees which are best suited to existing conditions. However, the state is so wide, and soils and climates so varied that it were impossible to cover so great a subject in any series of short articles.

**Right Selection.**

The objection is often raised that the Eucalypt is too rank a grower for street planting; that it overshadows all else, monopolizes the soil to the detriment of other trees or plants; lifts the cement sidewalk, stops up sewer pipes and in other ways makes itself a public nuisance. The answer to this is that the slower growing species should be used for town ornamentation, instead of globulus, viminalis, rudis, and some others, which are those almost invariably used on the streets, and which give reason for the criticisms alluded to.

**Australian Beech.**

Eucalyptus polyanthema, known sometimes as "Australian Beech," may perhaps be placed at the head of the list for ornamental purposes, and as being adapted to a great variety of climatic conditions. The leaves are roundish, becoming ovate, and of a beautiful grey-blue tint. The flowers are small, white, in dense panicles, resembling somewhat a gigantic head of mignonette.

Bees are very fond of them, the polyanthema being one of the most useful honey producers. Growth is not rapid. and with annual trimming the trees may easily be kept in any desired shape. This point should be emphasized, as the erroneous custom is so often to allow a street tree of whatever kind to grow until it infringes on some municipal ordinance, or gets in the way of the telephone wires, with like disastrous results, for there is not much choice between the "pruning" of the lineman and of the so-called "gardener." "Little and often" should ze the rule in trimming street trees.

Eucalyptus leucoxylon-rosea is another very hardy and beautiful eucalypt; in foliage not so striking as the former, but bearing profuse clusters of rosy-pink flowers. It is slow growing, and of dwarf habit, bark smooth.

**Sugar Gum.**

Eucalyptus corynocalyx, or sugar gum, is much more rapid in growth, and one of the most valuable species for timber, in the coast region. It is of a denser habit than most others, with very beautiful, dark green, glossy foliage. No Eucalypt withstands wind better than the sugar gum, and it is in every way unsurpassed, if equalled, as an avenue tree, but requires more room than polyanthema.

**Beautiful Flowers.**

Eucalyptus ficifolia, (crimson flowered gum),

Foliage of Polyanthema.

is perhaps the most beautiful of the whole family, at least so far as its very showy flowers are concerned. It is slow growing, and delights in a warm, sunny climate, not standing much frost without injury. The seeds are large, slow of germinating, very expensive, and the young seedlings extremely liable to "damping-off."

**For the Coast.**

Eucalyptus calophylla. This is a strong and vigorous species, adapted only to the coast region, or where frosts are never severe. Its foliage is exceedingly handsome, more "umbrageous" in habit than any other. Flowers are large, white, or pinkish.

A variety, called calophylla-rosea, has beautiful pink flowers; it is quite scarce, and available only as individual specimens.

**Lemon Scented.**

Eucalyptus citriodora, or lemon-scented gum, is well known in Southern California. It should be in every collection, as it will thrive in most parts of Califoria in protected places, near the house. Its delicately scented leaves make it a universal favorite.

**Hardy.**

Angustifolia is a variety of amygdalina, with very delicate, graceful foliage, striking in effect, and quite distinct; it is perfectly hardy anywhere in California.

**A Dwarf.**

Eucalyptus lehmanni is noticeable because of its spreading, dwarfish habit. It has very large, greenish flowers, giving a most striking effect. Its spreading nature makes it desirable for grouping, or for wind-breaks; it is quite hardy.

**Not a Eucalypt.**

Syncarpia laurifolia belongs to the Myrtle order, and is sometimes classed with Eucalypts. In Australia it grows to a great size, is rather tender; its timber is of great value, and the tree very beautiful; it is known as Turpentine tree.

Another closely allied tree is Angophora subvelutina, "apple tree," which, while young at least, is attractive and worthy a place in every collection.

Eucalyptus occidentalis and Eucalyptus erythonema are said to be highly ornamental; the young seedlings are beautiful, as they are growing in our plantations.

**Suited to Your Conditions.**

The whole secret of successful planting, whatever may be the ultimate object, is the suitability of the plant or tree to the conditions and environment.

**Beauty has Commercial Value.**

The culture of the Eucalypt is an all-absorbing topic, and there is no gainsaying the statement that this tree, planted in proper commercial form, is likely to become one of the most valuable assets of the State of California, and of no less value to the United States. I believe in exploiting the economic values of trees, but who is it "with soul so dead" that he cannot see something of the beauty of certain eucalypts, fittingly grouped and properly planted; or of the added glories of California when her barren hills shall be clothed or re-clothed with the everlasting verdure of their "aspiring branches," with their "scythe-shaped leaves, trembling beneath the slightest breeze?"—Leonard Coates. Morganhill. August, 1909.

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enables you to read Target at a distance of over 400 yards, therefore the problem of a FARM LEVEL with TELESCOPE at moderate cost has at last been solved. Voluntary letters from every State in the Union show the complete satisfaction it gives for all kinds of **DRAINAGE WORK, IRRIGATION, DITCHING, TERRACING** and every sort of farm work requiring a Level. GUARANTEED to be absolutely SIMPLE, ACCURATE, DURABLE and dependable in every respect.

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**Complete outfit** with full instructions, shipped anywhere C. O. D. **$15.00** and express charges. **Subject to Examination.**

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**Works: Perth Amboy, N. J.**

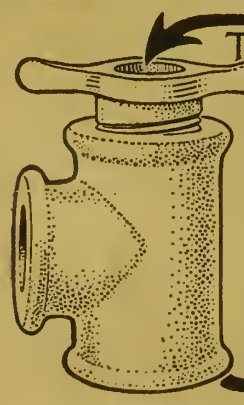
**CYANIDE** guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

**FOR SALE BY**

**F. W. BRAUN - Los Angeles and San Francisco**
**HAAS BARUCH & CO., " "**

# The Tee Irrigating Valve



Simple in design and construction, costs less and will last longer than any other on the market.

The Tee Irrigating Valve is made of an ordinary malleable iron T with a brass plug. It is designed for those who want an inexpensive irrigating valve, especially where such valves are needed in large quantities.

There is nothing to get out of order. It is so simple you will wonder why it was never thought of before.

A ½-inch valve sent post paid upon receipt of 40 cents. Quantity price, circular and full information upon request.

Address **George C. Roeding, Fresno, California**

# A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

## The Little Wonder

Write or call on

**Wm. Gregory**

**602 No. Main St. Los Angeles, Cal.**

# NITRATE OF SODA

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**NITRATE AGENCIES COMPANY**

**W. S. SPARR, Agent, 321 Stimson Block, Los Angeles**

When writing advertisers, mention Cultivator.


# Citrus and Sub-Tropical Fruits

## THE MANGO IN HAWAII.

THAT both the mango and alligator pear can be raised commercially in Hawaii at a profit is the belief of J. E. Higgins, of the Federal Experiment Station there. In a recent talk with the members of the Hawaii Promotion Committee Mr. Higgins said:

"The problems of budding both the mango and the alligator pear, have now been solved, and the way is now clear for the development of the mango and pear industry in Hawaii on the same scale as the orange industry has been developed in Southern California.

"We have been working all this year on the mango budding. Budding is necessary because the seeds of the mango cannot be depended upon to produce the same high grade of fruit as does the tree from which they are taken."

"The method that has been in vogue in the propagation of mangoes for a long time is that known as arching, or grafting an approach. With a fine mango tree of known producing qualities in a garden, we take a seedling in a pot, place it beneath a branch of the choice tree, make an incision in the bark of the tree and in the bark of the seedling, and bind the wounds together. In a few weeks we find that they have grown together. The seedling, with its bud, is then cut away from the parent tree, all of the growth above the bud is pruned off; and there is then a certainty that the fruit produced from the bud will be of the same quality as that of the tree which furnished the bud.

"This method works all right with an occasional garden tree, but it is manifestly out of the question when many trees have to be budded. Therefore it was necessary to look about for another method.

"The next plan tried was to cut a bud from a known tree, cut out a like bud from a seedling, insert the bud in the opening on the seedling and bind the two together. This method is thoroughly satisfactory when both the bud wood and the seedling are in the proper stage of growth. Were it only necessary to wait for the seedling or the bud wood to reach the proper stage, all would be well, but the necessity of waiting for time when both shall be ready makes this method impracticable for general use.

"Another objection to this method is the inability to get bud wood from a distance and be sure that it will be in the proper state for budding.

"So then we tried the oldest method of budding known, one that, so far as I know, had never been tried with the mango. A piece of bud wood is secured, the bud is cut out. The wood from the back of the bud is then stripped away. Next an incision is made in the bark of the seedling tree, the opening T-shaped with the horizontal line at the bottom. The bud is inserted, taking care to see that it is right side up, the wound is bound up with palm fiber, binding wax is used, and finally the whole is bound round with adhesive tape.

"After the bud has been in place for about a month, the top of the seedling is cut about three-quarters through, some eight inches above the the bud. This allows the upper part to bend over, but it yet retains sufficient vitality to draw the sap up from the roots. When the bud is well started, the top is cut off entirely, and after say six months, the stump is pruned down next the bud. In due time the stump will heal over so that there will be practically no trace of the wound made by the budding.

"As far as propagation is concerned, I should have no more hesitancy at going into the business of orcharding mangoes on a large scale than I should with regard to oranges in Southern California. We have here some of the finest mangoes in the world. We have mangoes which can be opened and the seed taken out with as great facility as can that of the alligator pear. We know that the mango can be shipped even better than can the alligator pear.

"I agree with the suggestion made by Mr. Wood that the mango should become to Hawaii what the orange is to Southern California. What I have said of the mango applies also to the alligator pear.

"I know that the aligator pear can be budded, though we have not yet been as uniformly successful as with the mango.

"Mangoes have been grown at elevations greater then one thousand feet and I believe that any soil that does not go to extremes is suitable. With regard to irrigation, even the young trees require less water than oranges. There is not one commercial nursery in Hawaii. A splendid opening for a man of experience and with sufficient capital to start right.

"As far as soil, altitude and irrigation are concerned the alligator pear will thrive under the same conditions as the mango. The alligator pear might well be raised here commercially at a profit. There is an immense amount of untilled land in the Territory admirably suited for the purpose.

"I should not hesitate advising any person with the necessary capital to start an alligator pear orchard of, say, ten acres as a commercial proposition. Of course a man would have to wait for his trees to mature before expecting any profit, just as is the case with oranges, lemons and commercial orchards of other fruits."

## ARTESIAN FLOWS.

Within the walls of an old Carthusian convent at Lillers, in the ancient province of Artois, France, is a well that has flowed steadily ever since it was bored in the year 1126, and this is but one of many flowing wells in the province whose name has furnished the term "artesian." Nearly equal in antiquity with the flowing wells of Artois are those of Modena in northern Italy, which were held in such repute that two well borer's augers were made the coat of arms of the town, and the first certain statement in literature concerning the employment of the miner's drill in sinking wells is probably that published in 1691 by Bernardini Ramazzini, a professor of medicine at Modena. Indeed, this town might well have disputed with Artois the right to give name to flowing wells.

**Later Well Drilling in the Old World.**

That artesian waters were discov-

ered at such early dates may, however, be attributed to happy chances. The modern history of flowing wells began only when geology was ready to point out the necessary disposition of rock strata and the art of drilling was mastered. In the early part of the last century improved machinery for drilling was invented, and much attention was devoted to the subject. In France popular interest in these wells was so great that for a number of years the Royal and Central Society of Agriculture each year distributed medals and prizes (the highest was 3000 francs) to workers in the field—to authors, inventors, well drillers, and to those who succeeded in obtaining wells in regions where they were not before known. Many flowing wells were drilled in other countries, as in England, for example, but the chief honors for the advancement of the science belong without question to the French savants and mechanicians.

**Artesian Well Districts in the United States.**

One of the earliest artesian wells in the United States was that sunk at Fort Monroe, Va., in 1845. Its depth, however, was not very great—only 168 feet. Another early well was the one begun at St. Louis in the spring of 1849 and finished five years later, when it had reached a depth of 2199 feet. Since 1860 thousands of deep wells have been bored in the United States, the most important artesian districts being those of South Dakota, Texas, and Southern California.

Every text-book on geology and every treatise on hydraulics discusses the occurrence of artesian waters. A paper by Prof. T. C. Chamberlin, on the "Requisite and qualifying conditions of artesian flows," published in the Fifth Annual Report of the United States Geological Survey, has become classic. In no science is it more generally recognized that Nature does not do her work in the simplest way than in geology.

## CONSERVE MOISTURE.

It will be necessary to practice great care in the conservation of moisture to make it possible for a tree to grow and produce fruit in many sections. This is to be considered as a most important phase. We must make use of all the moisture that falls, and make use of every practice that will conserve this moisture.

A certain amount of well rotted manure added to the land will help hold the moisture much better than where no manure is used. Almost every farmer and fruit grower is familiar with the methods of tillage that conserve moisture. Deep, thorough tillage in spring and constant shallow tillage during the summer will do more to make fruit grow in these dry sections than any other phase of cultivation.

Thus by the addition of well rotted manure, or the growing of cover crops until the ground is in good condition, and carefully conserving the moisture that falls, or can be secured, much fruit can be raised where none has been raised in the past.

Following closely upon the management and care of these fruit plantations, we must select such varieties of fruits as will mature before the very dry part of the summer comes on, or such varieties as will stand an unusual amount of drouth.—Irrigation Age.

## SCHOOL OF AGRICULTURE.

The School of Agriculture at Davis, which first opened for instruction in January of the present year, will begin its second term's work on September 20th. Several additions have been made to the teaching staff for the coming year.

Miss Katharine Winans will be Matron of the School, and will have charge of the dormitory, and of the new dining-hall now being erected. The social life of the School centers around the dormitory, and thus the position of matron is a most important one. Miss Winans has ability, tact and experience, and will fill the place very successfully.

Under present conditions, only boys can be received as students at the Schools of Agriculture. Applicants for entrance to the School should have completed the work of the eighth grade in the public schools, and should be at least fifteen years of age. The course of study is for three years of eight months each It gives practical training in up-to-date scientific methods of agriculture; a large proportion of the instruction is in field and laboratory. To supply further information about the School, a circular has been prepared, and will be sent upon application to the Principal, at Davis.

## DRY FARMING HANDBOOK.

The official Proceedings of the Third Annual Session of the Dry Farming Congress held in Cheyenne last February, have been published. Throughout the book is found information invaluable to all who are situated in arid sections not supplied with irrigation; and even to the irrigators there is much of value. The book has almost 400 pages, and includes the report of the statistician of the congress. It is furnished free to all members of the congress; to others at a cost of one dollar. The Secretary of the Dry Farming Congress is John T. Burns, Billings, Montana.

## LAST SEASON'S FLORIDA ORANGE CROP.

The editor some time since made application to the transportation companies handling the orange crop out of Florida for estimates of the size of the orange crop for the season of 1908-09, based on the number of boxes moved by them up to June 1, 1909. These figures have just been received by us and total slightly in excess of 5,000,100 boxes. This estimate is as nearly correct as it is possible to obtain.—Florida Fruit News.

## FOREST RESERVES IN THE U. S.

The following table shows the number and the area of the timber reserves in the United States:

| States | Number | Acres |
|---|---|---|
| Alaska | 2 | 4,909,880 |
| Arizona | 10 | 8,357,370 |
| California | 17 | 18,155,043 |
| Colorado | 14 | 12,661,643 |
| Hawaii | 5 | 56,757 |
| Idaho | 9 | 9,488,324 |
| Kansas | 1 | 97,280 |
| Montana | 10 | 10,517,860 |
| Nebraska | 2 | 208,902 |
| Nevada | 1 | 59,115 |
| New Mexico | 5 | 5,207,184 |
| Oklahoma | 1 | 57,120 |
| Oregon | 8 | 6,072,550 |
| Porto Rico | 1 | 65,950 |
| South Dakota | 4 | 1,263,880 |
| Utah | 10 | 4,611,360 |
| Washington | 5 | 7,785,600 |
| Wyoming | 4 | 8,197,799 |
| Total | 101 | 97,773,617 |

Whittier now possesses a sewer farm

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**Enjoy the Safety of This Big City Bank**

Keep your surplus funds here; profit by the definite accumulations of our savings funds. You can bank with us by mail.

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Is told in our new book on Citrus Culture, embracing every phase of the subject from the seedling plant to the final disposition of the fruit in the Eastern market. The largest and best book on the subject ever printed—60,000 words, 100 illustrations. You will want a copy, which we will send you for the small sum of 25 cents. Remember we are the largest growers of orange and lemon trees in the world.

**THE SAN DIMAS CITRUS NURSERIES**

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**HYDRATED LIME**

1 part Taylors Hydrated Lime
3 parts best Resublimed Flowers Sulphur ..... mixed in a common mortar box

Has given highly satisfactory results in many orange groves, gone over by several different contractors using largest power machines, as a dry spray for the

**Red Spider of the Orange**

Sulphur alone is too strong and does damage by burning. Hydrated lime remedies this and is the ideal diluent and vehicle for the sulphur—and reduces the cost.

$15.00 a ton net in 100 lb. sacks. Sacks 15c extra.

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Our stock is the true variety and has been successfully planted by farmers throughout Southern California. We advise Market Gardeners to plant our strain. Per lb., $1.75.

**Bermuda Onion seed**

White Bermuda, per lb., $2.50
Crystal Wax, per lb., $3.50
Red Bermuda, per lb., $2.25
Special prices for large quantities. Our Imported Stock will arrive in a few days.

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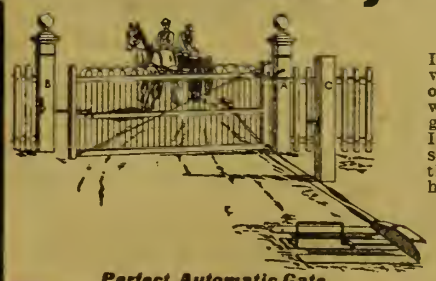

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**Petaluma, California**

# Deciduous Fruit Culture

## PICKING AND MARKETING PEARS.

THE methods used in marketing pears vary so greatly in different parts of the country that it would be impossible to describe them all in detail. It is only possible, therefore, to give certain general considerations in regard to the matter.

**In California.**

The season of the year, whether summer or winter, the distance from market, the purpose for which the fruit is intended, as well as many other conditions peculiar to the markets of different cities, all have their effect in determining the methods used by the successful pear grower. The California grower packs his pears, mostly wrapped in paper, in neatly constructed boxes, shipping them in carload lots to New York, Boston, or other eastern cities, or perhaps to London. The fruit is sorted and packed directly after it is picked from the trees, and is expected to ripen in transit and open up in prime condition for eating 3,000 miles or more from the orchard.

**Gulf States.**

The grower of the Le Conte and Kieffer Pear in the Gulf States also packs his fruit by wholesale methods, using barrels or boxes, and ships it in carload lots, or sometimes even in train lots to northern cities. On the other hand, the eastern gardener may ripen up a few bushels in his house and deliver them direct to his retail or wholesale customers. Large quantities of pears are consumed by the canneries, both of the Pacific coast and in the eastern states. The large crop of Kieffers, which is now getting to be such an important factor in the pear market of eastern cities during the autumn months, is very largely taken up by the canneries, especially in Baltimore, and the trade in canned Kieffer pears is very rapidly increasing. For the canning trade the pears are almost always shiped in baskets of the type of the Maryland and Delaware peach basket, and the baskets are generally returned to the grower to be used over and over again. The price paid is usually so low that the cost of the baskets is an important item if they are not returned. The price is often as low as 15 to 20 cents a half-bushel basket and 25 to 30 cents is considered a good price. Kieffer-pear growing is immensely profitable. This can be readily understood when we realize that the yield is often more than 1,000 baskets per acre.

**Time of Picking.**

One important point for the inexperienced pear grower to determine is the exact time for picking the fruit. The pear is quite exceptional as compared with the ordinary orchard fruits in that it is much better if picked from the tree before it is ripe, and then ripened up either closely packed in a box or stored in large quantities in a tight room.

Very few pears are at their best if allowed to ripen on the tree. As

choice a pear as Clapp's Favorite, becomes dry and mushy at the core and very poor in quality if allowed to hang on the tree, while the same fruit, picked when firm and hard, but full grown, ripened indoors, will be of an even consistency, juicy and delicious. During the last few days that the fruit hangs on the development of the hard, woody kernels, the so-called stone cells of the pear, proceeds rapidly. Picking before the fruit is ripe seems to partly head off the development of these stone cells, and subsequent ripening processes still further soften and disintegrate them. Among the pears of medium and poorer quality, such as the Duchess, Kieffer etc., the ripening process may almost be said to make the fruit edible, at least make it fit for a dessert fruit. Kieffers allowed to hang on the tree until they are full colored and ready to drop, have the maximum amount of stone cells; in fact the portion surrounding the core becomes almost a mass of woody matter under these circumstances. If, on the other hand, the fruit is picked when it first attains full size, or even a little before, and is ripened in bulk in the dark, it will color up a beautiful delicate yellow, frequently with a red blush, and soften evenly throughout, making a fairly good pear to eat out of the hand and a most excellent canning and cooking fruit. Pears allowed to hang too long on the trees when they are apparently ripe and soft will be found to have merely a shell, about half an inch thick, of ripened pulp and a large central portion either too hard to eat or filled too compactly with stone cells.

**Summer and Winter.**

Generally, pears may be divided into two main classes in regard to ripening methods, namely, summer pears and winter pears. All fruit ripened with or before the Bartlett may, for convenience, be classed as summer fruit, although of course in the southern states autumn varieties of the north, like Seckel and Duchess, really are summer fruits. The summer pears require but a short time, on account of their perishable nature and high temperatures prevailing at picking time, to reach an eating condition after they are picked. It becomes necessary, therefore, in most cases for the grower to pick the fruit and pack it at once into the packages and ship it to market. The fruit will even then arrive none too soon in most cases to suit the wholesale buyer. Summer pears should always reach the wholesale buyer in a perfectly hard, firm condition, or at most just beginning to become soft enough for eating. The retail dealer will, therefore, have time to handle the goods before they spoil. They will surely ripen up on his hands in ample time for him to sell them. The autumn and winter fruit, however, having much firmer texture and requiring longer to soften, should usually be partly ripened before it is started off to market. Pears like the Kieffer color up fully before they are soft enough to eat, and can usually be shipped to the commission houses while full colored, yet perfectly firm and sound.

**Before they Ripen.**

As a general rule, summer and fall pears should be picked from a week to ten days before they would ripen on the tree. The grower determines this point by several kinds of indications. In the first place, the size and appearance are guides to him. As the fruit approaches maturity the dead-green color of the immature fruit is replaced by a clearer, more transparent, and lighter-green appearance, which has to be seen to be fully understood. Again, certain wormy specimens attacked by the codling moth will begin to color up and fall from the trees. These, of course, are a sure indication that the normal pears will ripen shortly. Upon taking hold of the fruit and lifting it gently, if it is approaching maturity and ready to pick, the base of the stem will part rather easily from the twig at the proper separating point. Of course, if the fruit is immature the stem is apt to break at any place, although it may break off at the joint, but the ease with which the stem parts from the twig is a very good indication of maturity.

**Be Careful.**

Pears should always be picked carefully, without bruising, with the stems on. They should be laid carefully in the picking baskets, which should hold a half bushel or so, and then be hauled to the packing house or other convenient place and at once sorted into grades, and either packed and shipped or placed in the ripening house for future shipment.

**Don't Pick All at Once.**

It is usually better in most cases, especially with summer fruit, to pick the trees over two or three times, although this is not absolutely necessary, and unless the trees are heavily loaded may not be worth while. When the fruit has not been properly thinned and the trees are overloaded, many growers begin to pick the fruit long before it is full grown and send it to market. By this means the trees are not only relieved somewhat, but the fruit that is left swells to the largest possible bulk; moreover, satisfactory returns are often secured from the early pickings. This method is particularly successful with Clapp's Favorite and Bartlett. Both of these varieties will ripen up tolerably well when they are not much more than half grown. The same principle is successfully used in handling Le Conte and Kieffer pears, but these should be nearer maturity to be good. There is one great advantage in the application of this principle of premature picking in case of these two great varieties in that it distributes the marketing season over a longer period, and thus tends to give the country time to consume the crop without any glut in the market.

**Cold Storage.**

Pears may be put in cold storage in about the same way as apples, the temperature required varying from 33 degrees to 38 degrees F. They are usually stored at a temperature a few degrees higher than that in which apples are stored, in fact are given the treatment of summer rather than winter fruit. Unfortunately, pears do not stand cold storage as well as apples. This is especially true of summer pears. Extra precautions are necessary in both picking and handling the fruit before it is put in storage, and in the subsequent handling after it is taken out.

**200,000 SOUR ORANGE STOCK**

For 1910 spring planting. Every plant from Genuine Selected Florida Sour Seed, and I can prove it. Also sweet stock. **Don't** buy uncertain and inferior grown plants. This is nursery gospel. **Don't** waste time and money on 6 and 8-in. plants when you can get them twice the size for the same price. **Don't** take my word for it; come and see the plants in seed-bed and nursery. Plants are 9 to 12 inches now, with 9 more months to grow.

**Contract Now, Get the Best and Save Money**

**See Them at 232 So. Marengo Ave. Alhambra, California** **Chas. S. McMillan, Citrus Nurseryman**

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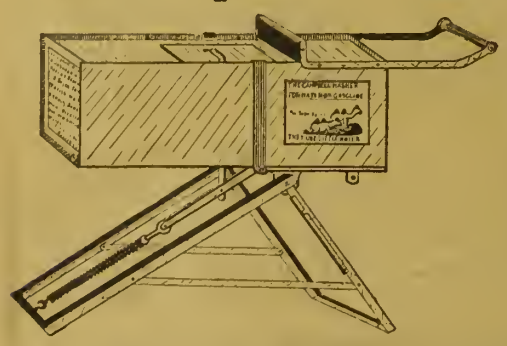
**A Campbell Washing Machine**



will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

**FOR WATER OR GASOLINE**

Circular on application. **For Sale by**

**Boesch Lamp Co.**

**1135 Mission St.,** Near the Post Office, **San Francisco, Cal.**

Cold-storage pears are very apt to blacken and become unsightly after they are taken out of storage, even though they may be in fairly good condition. Summer pears, particularly, are inclined to lose their flavor in cold storage Kieffer, Anjou, Bosc, Easter, and some other late varieties when put into cold storage hard and green seem to stand the treatment very well and come out several weeks afterwards in nearly the same condition as that in which they went in. They may then be brought into a warm room for a few days before they are wanted and ripened up nicely for eating.

**Packages.**

The packages used for pears vary widely in different parts of the country. As before mentioned, the half-bushel peach basket is very commonly used in handling the crop for delivery to canneries in Maryland, Delaware, and New Jersey. This basket usually goes under the name of the five-eighths basket. Very few of the models, however, hold five-eighths of a bushel. This basket with a slatted cover is also very largely used in shipping by steamer and otherwise to Baltimore and Philadelphia. It is in some respects the least desirable package of all except in cases where the grower can haul the fruit direct to the city markets or where cars can be filled by packing the entire car tightly with the baskets. The pear box, usually with a middle partition and holding from 3 pecks to a bushel, is very commonly used in the eastern states. Some very rough specimens of this type of package, made of undressed laths with wide spaces between, annually reach the markets of our eastern cities, and, as the package commonly sells the fruit, low prices may always be guaranteed for such a package, regardless of its contents. On the other hand, a pear box on this model made of neatly dressed half-inch pine or similar wood, can be made really a fancy package, and if the fruit is wrapped in paper, and carefully sorted and packed, it may bring the best prices in the market. A still larger package is the pear barrel, a special barrel made for shipping pears, smaller and with less bulge than the apple barrel, and holding about 2¼ bushels. Kieffer pears, and very commonly the southern Le Conte pears, are frequently shipped in the regular apple barrels.

If the grower ships to a commission house, it is wise to consult the commission merchant as to the form of packages which suits the market demands of his city for the different grade and varieties of his fruit. It is very often wise to put up fancy fruit in a fancy and perhaps small package and to put the poorer grades into larger and cheaper packages. Usually nothing is gained by deception in packing the fruit, especially if the grower expects to use the same market repeatedly and to sell to the same cusumers. It is usually best to have a distinct brand or trademark if any considerable quantity is to be sold. If the fruit is really meritorious, grocerymen and other fruit buyers will quickly become familiar with this mark and will come back and call for it again. Fruit which is known by a brand will often sell readily and quickly for 50 per cent. more than other fruit equally as good, but not known to be so by the buyer.—M. B. Waite.

## THE PECAN.

Robt. T. Morris, of New York, says: "I believe, that nut trees are largely to take the place of the useless trees which are at present planted for decorative purposes in public and private grounds.

The reason for this belief is, because there are no more beautiful trees or more attractive than those to be found in the nut bearing group.

Is there, for instance, a more inspiring tree in the world than the pecan, which will grow from New Orleans to Boston, and which rears its head a hundred and fifty feet into the heavens with a corresponding spread, and with the grace of an elm? Is there a more luxuriantly growing tree, almost tropical in appearance, than the heart nut, which will grow as far north as Ontario, Canada? We have in America at least twenty-five kinds of nut-bearing trees that are notable for their beauty as well as for their value."

## APPLE EXPOSITION.

The Denver Auditorium is to be the scene of one of the greatest expositions of the coming season. The Colorado National Apple Exposition will be the grandest demonstration of the apple growing industry that has ever been promoted. Thousands of dollars in prizes will attract hundreds of exhibits in the various classes and it is doubtful if the Auditorium will hold the stuff that is offered for display. The apple industry is growing rapidly and will this year mean millions of dollars to Colorado. No better dates could have been secured than the week from January 3 to 9, 1910.

Not only is it important to know how to raise a good crop of fruit, but it is equally as important to know how to market the crop. Study markets. Keep posted on demands and prices.

THIS GUARANTEE BOND FULLY PROTECTS YOU

LOTS of manufacturers are keen to tell you what their goods are made of. They give you a beautiful word picture of a marvelous and mysterious "gum" that only they can produce. Others tell you of the real "rubber" that they use—and so on.

Regarding Congo Roofing, we have only two statements to make:

**First**—We believe it is the **best** ready roofing made.

**Second**—Because we believe that, we give a **genuine Surety Bond** with every roll, which guarantees three-ply Congo for 10 years.

These bonds are issued by the **National Surety Company**, and they are as good as a government bond.

No other roofing manufacturer **dares** give such a guarantee.

You take no chances when you buy Congo.

There is no "gum" in it to make it sticky; there is no rubber in it to get brittle. It is made of the best roofing materials that it is possible for us to purchase under the best manufacturing conditions. Because it is made right, it gives such satisfactory service that we are not afraid to issue a **Guarantee Bond** to back up every statement we make.

Ask any other manufacturer for a **Real Bond** and see him squirm.

**Booklet and samples of Congo free on request.**

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Successor to Buchanan-Foster Co.
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**For the Pacific Coast**

We are the exclusive agents for the **A. I. Root Co., Medina, Ohio.** Our hives are manufactured from selected California Sugar Pine. Branch houses at Los Angeles and Elk Grove, Cal. Write for Catalog. We also manufacture orange, fruit and packing shook, drying trays, etc. Beeswax wanted.

**Madary's Planing Mill,**
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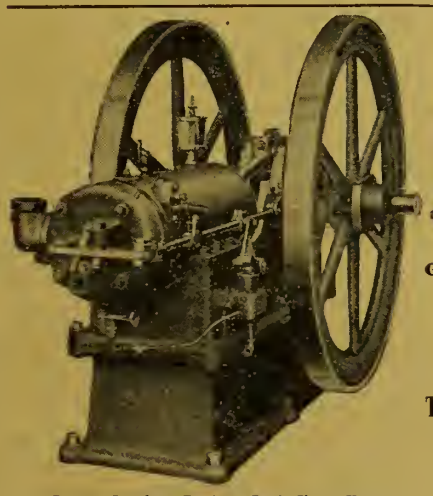

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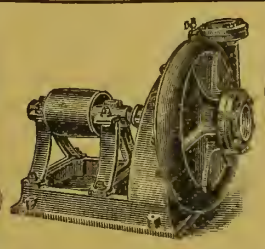

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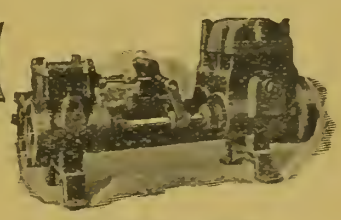
**Red Cross Wind Mill**



**Steam Pumps**

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# Live Stock and Dairy

Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

## UP TO DATE.

(By Mrs. M. E. Sberman.)

WHILE philanthropists claim the child has an inalienable right to be born in healthy surroundings and from healthy parents, at present the calf is securing this right as a money saving principle. The sanitation of the modern barn is better than that found in many flats. In the better class of stables, the builder carefully measures the air space and arranges for tbe fresh air to be admitted without any drafts striking Madame the cow. The King system as applied to barns is nearly perfect in its work of furnishing a constant supply of pure air. The mangers are kept scrubbed clean and all the surroundings of the cow make for health. This is while the cow is giving a liberal supply of milk, but, by and by, the cow goes dry and then she is turned out of the herd and left to feed on the scanty grasses until she freshens again. When the calf is dropped it is illy nourished and weak. Wben the cows go dry, a little grain should be fed if they are thin and they should be provided with a dry shelter from the chilling winds to sleep under, and good alfalfa hay to eat, with abundance of fresh water to drink. Rest, quiet, and enough to eat, are their needs, all served to them in a way that will not tax their strength. The watering trough should not be half a mile away from the hay rack. This is the way it should be, while the usual way is to turn the dry cow out with the heifer stock to rustle her living in a pasture without shelter from the heat or cold. Lest, this seem an exaggeration, I refer you to the story on record of a careful breeder whose cow completed a wonderful year's test of butter fat. She had been coddled and fed, but as soon as her test was made, out she went into the cold and died with pneumonia almost before her record was cold in print.

Tbe heifers that are springing should be put in with the dry cows and fed on abundant food of a light laxative nature, silage, green grass, roots, bran, and plenty of good alfalfa hay. Pet and talk to the heifers and they will come in gentle to the milking string. There will be no breaking to be done as they will be ready to adopt the milker as an older son in their newly aquired motherliness. By having the stock come in to the milk string in good flesh, the calves dropped will have a vigorous start in life. The extra feed that has been given the cow comes back in the milk pail, almost all of it. The difference between a well fed cow in milking and one that is weak and poor is greater than anyone realizes that has not provided liberally for the dry stock.

**Sires.**

The selection of the sire is not taken up here except in passing to say that he should be strong and vigorous. A starved sire will not get as good calves as one that is fitted by good feeding. The prevailing idea of using youngsters to head the herd is not a good one. Mature sires and dams are the best. Hold on to the old sire as long as possible if his calves are good. Increase the uniformity of the herd by having many full sisters among the cows. The old sire should be kept until he dies if possible at the head of the herd. If he is used with care and fed enough of the milk making feeds along with the cows, he will not grow over fat and become unwieldy. When there are twelve cows in the herd, that have been bred for six years to the same sire, it would give seventy-two calves, counting all lived. Out of this, say thirty were heifers, these cows would be a uniform lot and a young sire carefully selected to head the second lot would come in use after they were grown up. Tbe heifers from the original herd would be added to his string until a third sire was needed .Now if for any reason the older sire is discarded, it is better to buy a mature animal for the head of the herd, unless tbe second sire's string is small enough to absorb the older cows into his band. By a little sea-sawing two sires may be enough for a good number of cows, though it will bring back sometimes, a few of the grand daughthers to be bred to the grand sire. This will increase all the qualities, the good, as well as the bad. Beware, therefore, of physical peculiarities that may be intensified. It is hard to express just how much fat a cow may carry, when she comes into the milking string. She must be in relaxed condition at calving time and this is easiest to produce by feeding ensilage with good alfalfa hay in quantity. If there is no silo (would you believe it there are actually dairymen that do without silos? Not of, course, in a progressive state like California) then roots and bran should be freely fed to the dry cows right up to the time when they freshen.—M. E. Sherman.

## FOURTH BUTTER CONTEST.

There were twenty-one entries to the fourth educational butter scoring contest held at tbe University Farm, and the highest score was 95 taken by the Pioneer Creamery at Ferndale, Humboldt County. Unfortunately, very few entries have ever come from Humboldt County; hence her tardy recognition. We are glad to report a continued interest in the educational effect of the scoring contest in California, as is shown by number of entries received this time. Probably August is the most discouraging month here for buttermakers, and doubtless many sent butter knowing that circumstances were greatly against them. In general, the quality of the June entries was maintained. All packages arrived in good condition and were held in cold storage several days in order to insure uniformity in that regard. The judging was done by Mr. C. L. Mitchel, federal inspector for the Coast; Mr. L. M. Davis, recently from Kansas and now with the College of Agriculture; and the undersigned. The scores are as follows:


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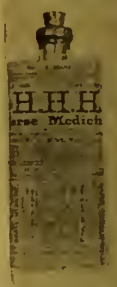


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Crystal C. & B. Co., Sacramento..92½
Western Yolo Creamery, Winters..92
Pozzi Creamery, Meridian.....91½
Homestead Creamery, Nicaslo...91
San Pasqual Creamery, Escondido 91

The good effects of using starter for which we have been contending the past few months begin to be apparent. All of the first ten on the list used starter which includes all scores of 93 or above. No one failing to employ a starter received a score of more than 92½. We note with interest that those who have previously scored low on butter made without the use of starter have in this contest advanced well toward the top of the list by using a starter. At least they report having used starter and we feel safe in attributing the improvement directly or indirectly to the starter. Of course a starter will not accomplish the impossible, but the results obtained by its use at this contest by those who have not employed it before, should be encouraging and significant to all buttermakers. We urge all managers and creamery operators to supply their buttermakers with starter cans if they have not already done so. The amount of starter used varied from 10 per cent to 40 per cent. One creamery, where the buttermaker previously complained of being unable to secure milk for cultivating a starter, now reports the use of 10 per cent in making his entry

All entries were made from gathered cream with the exception of two or three that report a very small amount of whole milk, but too little to be of any significance. The first and third entries were made from pasteurized cream, using temperatures of 160 degrees and 176 degrees respectively. It seems proper to warn the buttermakers against using too high temperatures for churning and washing. Those who were most successful in this contest cooled to 50 degrees or lower, churned at 55 degrees to 57 degrees and used wash water at not over 60 degrees. Others averaged 5 degrees higher than this and apparently to their disadvantage. Doubtless, there is a temptation to raise the temperature in order to incorporate water but at the same time body is injured, as was observed in several entries. Moisture tests of all entries have not yet been made, but so far they seem to average low. Individual letters of criticism and the score cards will go forth as soon as possible.—Herbert A. Hopper.

## HOW TUBERCULOSIS SPREADS.

Common sense, vigilance and education are the three essentials for the protection of our cattle from so-called "contagious diseases" and for the producing of dairy products free from disease-producing bacteria.

The fact that there is a great deal of tuberculosis in many of the barns most elaborately equipped for the carrying out of sanitary principles leads me to think (and I think that you will agree with me) that under prevailing methods—which, carried out to the letter, in many barns result only in the slaughter of entire herds—even though the "cows be of gold and the barns nickel-plated," they will still have tuberculosis.

Evidently there is a terrible leak in our sanitary arrangements, or rather a vacuum which has never been filled. One good exampic of the inefficacious methods—and there are thousands to exemplify it—is found in the barn of a breeder who recently received a first prize for the best-kept farm in Massachusetts. Soon after the bestowal of this most elevating recognition, his entire herd, with the exception of two head, was stricken with tuberculosis, a result, as he thought or as he was made to think by bacteriologists, of buying a tuberculous cow.

But is this practical or consistent with nature? I know that it has been the undivided opinion for many years. Doesn't it seem a little fabulous? Are the level-headed dairymen going to believe that one tuberculous cow brought into one of these so-called perfectly sanitary barns, full of smooth-coated and healthy cows, will infect the entire herd, unaided by any other agent or element?

Far be it from me to believe an occurrence such as that in the barn above mentioned and in many other barns throughout the states was ever ordained by the Almighty, otherwise than as a means by which to designate the utter unfruitfulness of attempting to "stamp out" a disease without beginning at the root and staying there until the disease is starved out of existence.

The farmer when he kills his tuberculous cows is aptly compared to the father who whipped his boy because he complained of the stomach-ache. But the father has by far the best ground for his action, as in all probability, he whipped his boy because he ate green apples. When the farmer kills his tuberculous cows he does it because he is told to, and in 99 cases out of a hundred he is not told the cause of the disease and does not know himself. Provided he is told, it is by a veterinarian who knows but little of the causes of tuberculosis in general, let alone the cause of an individual case.

Who is to blame if tuberculosis spreads through a dairyman's herd? The dairyman, every time. A perfectly healthy cow, in her own barn and in her own stall, will not—under conditions which prevail in our best stables as well as in our poorest—create tuberculosis in her own body. I do not wish any one to think I insinuate that the disease is not contagious—that is out of the question. But what I do wish to convey is this—that a healthy, rugged cow will not be contaminated by the tuberculosis if she is taken care of as she should be.

Veterinarians and bacteriologists may argue from now until doomsday. They cannot give a healthy cow tuberculosis unless they inject the tubercle bacilli directly into the animal's system. When each and every farmer is taught or finds out for himself that it is he, and not the Almighty, who is responsible for the existence of the most dreaded of all diseases, then, and not until then, will tuberculosis (bovine) be starved from our herds.—Jersey Bulletin.

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Some idea of the importance of milk as human food may be gained from the fact that about one-sixth of the total food of the average family is furnished by it and its products.

**Do your cows milk hard? Send 50 cents for teat expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

## NATIONAL DAIRY SHOW.

The next National Dairy Show, will be held in Milwaukee October 14th to 24th. The inquiries for space for the display of machinery and dairy cattle indicate a wide interest, and reports coming in suggest a goodly attendance of those interested in the various phases of the industry.

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As to the amount of pasturage or the number of hogs alfalfa will carry per acre without injury to the crop, the estimates given by farmers vary considerably, depending on the kind of soil, the fertility of the land, and the size of the hogs pastured. The following, however, is a safe estimate as given by conservative men who have had much experience. River valley and creek bottom land well set in alfalfa will carry from 15 to 20 head per acre of 50 to 125-pound hogs. Upland of fair average fertility will support from eight to ten head of the same kind of hogs. There are fields that have supported 25 head per acre through the season for a number of years and are still in good condition, and there are other fields that will not furnish pasture for more than five head per acre; but these are extremes. When a field is only used for pasture it is better to divide it into several lots and move the hogs from one to the other as occasion requires.—From Coburn's "Swine in America."

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Our farmers are throwing away good opportunities of making good profits from their home-grown foods by not feeding a few lambs.

This can easily be seen from a practical and scientific point of view. Some may argue that the farmers should grow their own feeders, and in that manner make the whole profits, but to these men I would say that such a practice would be opposed to the science of the business of feeding lambs for mutton.—Lexington Herald.

---

Good, unadulterated milk should contain about 87 per cent of water and 13 per cent. solids.


**40 Legs** Imagine a man with 40 legs, 40 feet to wash, 40 shoes to repair, and yet unable to travel as fast or as far as a two-legged man. Wouldn't have much excuse for those bothersome, extra 38 legs, would he?

Same way, exactly, with cream separators. Common disk, or "bucket bowl" machines are full of parts Some have 40 to 60 disks inside

Yet they can't skim as fast or as clean, can't run as lightly, can't be washed as quickly, can't wear as long as the simple, sanitary Sharples Dairy Tubular that has nothing inside but the single little piece on the thumb. No excuse for disks. Get a Tubular with the can that never moves. World's biggest separator factory. Branch factories in Canada and Germany Sales exceed most, if not all, others combined. Write for catalog No. 260.

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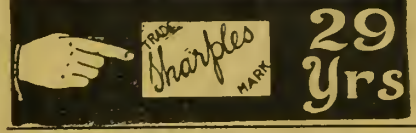


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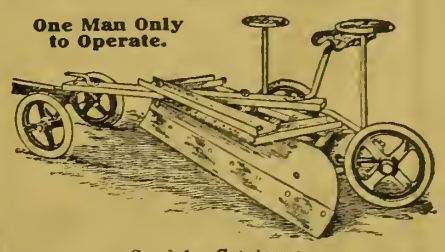
One Man Only to Operate.



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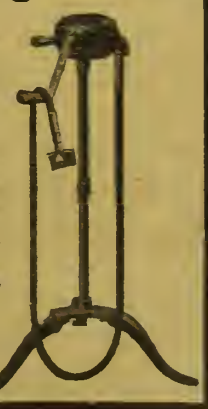

No machine ever made at any price equals this one. It is the most perfect in every way of all clipping machines on the market.

It turns easier, clips faster and lasts longer. If you have but one or two horses it will pay you to have this splendid machine.

The gears are all cut right out of the solid bar, and all wearing parts are file-hard. It will last a lifetime.

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We are now offering our entire herd (75 head) of pure bred Holsteins for sale at very low prices. Will sell as a whole or in carload lots to suit purchaser on very liberal terms. All our stock comes from the celebrated herd, formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein-Friesians in Cal. Write your wants.

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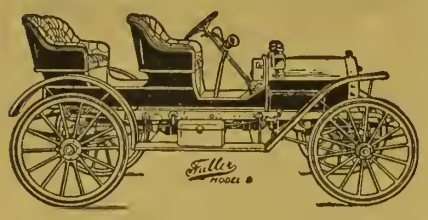

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*Two or Four Passenger*
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### Strawberry Plants

Twelve varieties and ready about Oct. 1st.

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Send for price list.

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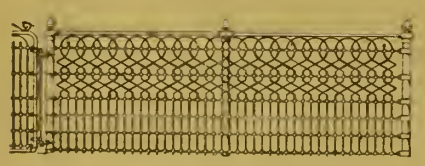

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**FLEAFOE** MAKES 'EM GO!

And other pests, too. Mosquitoes, flies, roaches, ants, bugs, etc. Sure thing. Guaranteed. Nor does it stain or injure fabrics even a little bit. Odor not offensive. Bottles 25 cents, of dealers, or postage prepaid by us. Agents wanted; easy, quick money. **WEST COAST MILL CO., 705-709 So. Griffin Ave., Los Angeles, Cal.**

**EUCALYPTUS TREES AND SEED**

**SUNSET HORTICULTURAL COMPANY**
**Inglewood, California**


# Small Fruits and Vegetables

### THIS MONTH.

IF CHRISTMAS vegetables are wished, it is none too soon to begin the work. Plow or spade in the manure and irrigate thoroughly to fit the ground for the seed.

Yorkshire Hero peas are probably the best pea. Wax beans may also be planted, as may cabbage, cauliflower, celery and onion sets. Rhubarb may also be replanted profitably at this time.

Naturally the human race turns to gardening in the springtime, but the Californian who appreciates crisp vegetables will have great pleasure in making garden at this season.

### USING POISON IN THE GARDEN.

Some of my friends and neighbors frequently ask me about using poisons on their various garden crops, even on strawberries for leaf roller or other leaf eaters. Paris green is still much used; but occasionally an inquirer wants to know something about arsenate of lead and how to use and combine it. I always advise them to quit talking and inquiring about Paris green and give up using it entirely. It can in no way compare with arsenate of lead. It is not so safe to handle, not so safe to apply and not half so effective. Arsenate of lead is in paste form. We run no risk of having to breathe the poisonous dust as we do when handling Paris green. We can apply it any strength required to kill the biting insects without running any risk of injuring the tenderest foliage. In short, we now use arsenate of lead and nothing else except perhaps white hellebore for the currant worm. Arsenate of lead sticks to the foliage or fruit to which it is applied. It might stick long enough on the currant fruit to make its use risky, and white hellebore does the business. But it does not help us in fighting potato beetle, flea beetle, cucumber beetle and especially the rose chafer, also codling worm, etc. We can kill any of these easily with arsenate of lead, and all that is needed is to use it in proper strength. For ordinary use I put about three pounds of the paste in 50 gallons of spray mixture. For the "rose bug" even more may be required. Since using arsenate of lead, as I have done for the past six or eight years, I have had no difficulty in conquering potato bugs, flea beetles, cucumber beetles, etc. By spraying with arsenate of lead either in combination with Bordeaux mixture or the commercial lime-sulphur solution, I have not failed once to save my potato, cucumber, melon and squash vines from serious injury by their insect enemies, and I shall continue to use arsenate of lead until something better is brought out. But the question comes: "Where do you get it?" The drug stores don't keep it. Grocers keep Paris green, perhaps hellebore or even London purple; but they know nothing of arsenate of lead. This poison is not in the general trade. It is emphatically a compound prepared almost exclusively for agricultural uses. Up-to-date seed and supply stores keep it in stock. I can get it in seed stores, for instance; and the seedsman who does not offer it to his customers does not keep a complete assortment and stock. Of course, you can easily prepare your own from drugs which you will find at your druggist's—arsenate of soda (4 ounces) and acetate of lead, or "sugar of lead" (11 ounces). Dissolve in water, and the arsenate of lead resulting from the combination will settle at the bottom as a white paste. It can be bought quite cheaply, however, (12 to 15 cents per pound) if bought in larger quantities from agricultural supply dealers, but will cost more if bought in small quantities, or if homemade from drugs bought from the retail druggist. Pains must be taken to properly dissolve this paste before it is mixed with the spray liquid. Take small quantities and add a little water or Bordeaux mixture; then stir it thoroughly like lead paint until the paste is reduced to a cream or milk-like consistency. Then it may be poured into the spray liquid and sprayed. It is not liable to settle to the bottom again, after once being dissolved, as Paris green will do.—T. Griner in Southern Cultivator.

### THE GARDEN COMPOST HEAP

In numerous instances plant diseases are spread from the garden compost heap on account of the gardener throwing old and diseased plants into the compost heap to make manure for next year's use.

The experiment stations have discovered that corn smut, potato scab and cabbage club root are many times caused from compost heaps. Some gardeners will burn all affected plants rather than utilize them for manure and have them become mixed with their soil. They believe that such a practice of putting them in a heap will result in the multiplication of diseases and also insect pests.

As a general rule it is not best to spread refuse of one crop on land designated for the same crop, whether in the garden or field. Onion refuse should never be spread on land that is calculated for onions, on account of the danger of propagating the smut. Cabbage refuse should not be spread on cabbage land on account of the danger of propagating club root and black rot. Burn it and destroy its power to propagate disease in your gardens, and on your farms, or else put it on a field where some other crop is to be grown.—Agricultural Epitomist.

### SCABBY POTATOES.

Potato scab is a disease of the potato tuber caused by a funguous growth attacking them in the soil. Spores of the fungus will remain in the soil from year to year and on the tubers from one season to another. The disease causes the surface of the potato to become rough and unsightly and very often extends deep into the flesh, injuring its food value.

Scab on potatoes can be prevented by planting uninfected tubers in clean soil, and the danger of infection may be reduced by rotation, or by planting the potatoes in different soil each season.

Dissolve two ounces of the corrosive sublimate in 2 gal. of hot water. When it has dissolved, mix it with fourteen gallons of water and sprinkle or pour it over the potatoes, so that all of the tubers become moist with the solution. What is left over of the poison must be carefully disposed of.—Journal of Agriculture.


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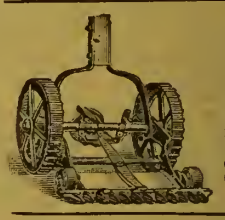

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# The Ornamental Garden

### THIS MONTH.

THIS IS a busy season in the flower garden. Winter and early spring bloomers require thought at this season. Sow pansies, stocks, cosmos, coreopis, centaurea, cineraria and especially sweet peas. Earlier sown pansies and stocks may be replanted.

Roses which have been resting may now be pruned back and irrigated and manured heavily for winter bloom.

This is the proper month in which to sow acacia, Eucalyptus, pine and cypress seed.

A beginning may be made in the planting of the hardy Dutch bulbs.

### PLANTING AND CARE OF ROSES.

In order that roses may be employed most effectively they should be planted in beds and masses, from 20 to 100 or more plants together and all of one kind, not a variety or mixture. When planted in beds, roses should be set about 18 inches apart, or 13 plants for a bed six feet in diameter and 37 plants for one 10 feet in diameter. The hybrid perpetuals may be planted two feet apart, or about seven plants for a bed of six feet in diameter, or 19 plants for a bed 10 feet in diameter.

The rose bug or chafer must be hand-picked and destroyed and the leaf roller crushed. I do not know of any effective remedies for either. Disease should be warded off by keeping the plants in a vigorous, thrifty condition. When planting, cut back the shoots to three or four eyes.

Roses to be seen at their best should be examined in the early morning, while the dew is yet upon the blooms and before the hot sun has caused them to lose color. For the same reason, roses intended for house decoration should be cut early in the day and care should be taken to cut specimens in the bud state or partly open—as they keep best and are seen to the best advantage.

No one can afford to omit this charming flower from the garden. The care bestowed on it and the trouble taken with it will be repaid a thousand times and the pleasure derived from rose culture should not be limited to the few but open to all.

I will close with Dean Hole's advice to rose growers:

"He who would have beautiful roses in his garden, must have beautiful roses in his heart. He must love them well and always. To win he must woo, as Jacob wooed Laban's daughter, though drouth and frost consume. He must have not only the glowing admiration, the enthusiasm and the passion, but the tenderness, the thoughtfulness, the reverence, the watchfulness of love."—William C. Barry.

### THE PEONY.

We have often called the attention of our readers to the peony because we believe it is one of the most desirable flowering plants for the farmer's home grounds. The bloom is almost, or quite, equal to the rose in its beauty, while the plant is much more hardy for the lawn. In fact, the peony is so hardy and determined in its habits of growth that the planting of strong roots in a fertile soil is about all that is required to secure bushels of flowers for the home.

The peony has received much attention in recent years from specialists who have developed many new colorings and patterns in the blossoms. A visit to the grounds of a peony specialist will excite the admiration of any lover of flowers, as he notes the delicate shades of colors and beautiful rose-like shape of the bloom. Several additions are made to the list of named varieties every year.

The peony does its best in a rich, moist soil that is well drained. A mulch of well composted stable manure should be applied for fertility which will stimulate growth and develop large, well formed blossoms. The peony makes attractive borders for driveways, also for division lines between the lawn and garden.

### CARNATION LEAF SPOT.

The use of too much water helps to bring on carnation leaf spot. When a plant is so affected remove all the badly affected leaves and wash the plant with the dilute Bordeaux mixture. Perhaps it would be better to dust it with the dust instead of using the liquid mixture. The dust is made by dissolving one and a half pounds of sulphate of copper in a gallon of boiling water. Then take a peck of lime and dry slack it with the liquid, to which you can add enough water to properly dry slack the lime. When the lime is reduced to a powder, dust the plants twice a week with the dust, If you have only a plant or two, it is sometimes advisable to cut the spots with a small pair of shears before you apply the dust. The soil should be kept reasonably moist, but not too wet. There should be a reasonable amount of sunlight, but the room should not be kept too hot.

### CEMENT WALKS.

If a good well-balanced mixture is used when building concrete walks they are more serviceable than quarried stone. The largest stone used in the concrete should not be over two inches in diameter. The gravel should be of all sizes with enough sand added that the necessary amount of cement used will fill the gravel. If too much sand is used, the walks will be weak and chalky. If too much coarse gravel is used the sand and cement will not fill the material and bind it together. Many contractors make a practice of leaving the foundation convex, and build the walk thin in the center to save material. Walks that are thin in the center are very apt to break as there is much more strain on the center of a walk than there is on the outside.

When the foundation underneath a walk is low at the center the weight of travel being near the center it is apt to check sooner or later. If the foundation is too high in the center the whole weight of the walk rests on a small bearing and the risk of breaking is much greater than with a proper foundation. When the walk is only three inches thick at the center it will last but a short time unless the foundation remains perfect. It costs but very little more to build a walk five inches thick in the center and it is worth twice as much for any purpose as one three inches thick.—Successful Farming.

### FLOWERS IN HONOLULU.

We have so long been considered a land of flowers that we cannot help but be surprised at the following clipped from the Hawaiian Planters Monthly:

The flower business of the Islands is largely in the hands of Hawaiians and Japanese. Carnations, violets and asters flower almost continuously, especially at elevations above 1,000 feet. The Honolulu market is well supplied with flowers, such as they are, but a number of florists find it profitable to bring considerable quantities of the finer classes of cut flowers in cold storage from San Francisco. The opportunity is open in the production of finer types and strains of cut flowers, ferns, greenhouse plants and ornamentals, as in the case of vegetables of improved types.

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ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 DUANE ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, September 2, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

Frank H. Thomas, Adv. Mgr., 115 No. Broadway, Los Angeles
M. C. Holman, San Francisco Office, 733 Merchants Ex. Bldg.
Fisher Special Agency, Eastern Office, 150 Duane St., New York
H. G. Hutchins, Subs. Man'gr., 115 No. Broadway, Los Angeles

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## New Dress.

IT IS CHARACTERISTIC of all of us that when we don a new dress or bonnet we feel just a bit elated and so conduct ourselves, sometimes unconsciously, as to call our friends' attention to the fact. The modesty of the Cultivator is not quite so prominent but that it may in so many words ask, "What do you think of our first page and the head lines of the departments in this week's issue?" We have retained the general outline of the letters used in the former head, for we feel that that is a part of ourselves, but have substituted the outline for the black letter, and have otherwise made sufficient change so that you will notice that we have something new. We trust that, as is usually the case with the wearer of new clothes, we may be inspired to still better behavior and to more fully meet the expectations of our ever increasing family of readers.

## Peru Waking Up.

THE CULTIVATOR is in receipt of a communication from the Consul General of Peru in New York in regard to agriculture in Peru, enclosing an article in which the possibilities of fruit growing and agriculture in general are touched upon in a scientific as well as a most attractive way. The letter calls attention to the fact that upon the completion of the Panama Canal in 1915, the country south of the equator will have great opportunities for putting winter fruit into New York and the Eastern Coast points in wonderfully short time, and compares the advantages of Peru over California in supplying that trade. The article says:

"The climate of Peru is so well adapted to the growing of grapes, pears, strawberries, raspberries, blackberries, peaches, paltas and other fruits and all the vegetables which are consumed by the people of the United States in large quantities. In the tropical countries these fruits and vegetables of the temperate zone do not grow to perfection, if at all, so that competition from that source is impossible. The supply of citrus fruits and apples, the latter having the quality of remaining in perfect state of preservation for many months after harvesting, is now ample and Peru can never expect to compete with California in citrus fruits and with many other parts of the world in apple culture."

Now we do not think that this offers any particuar menace to California's position as a fruit producer, but it should give added incentive to produce only the best which our soil and climate are capable of producing. Too many of our growers fall back on the claim that "California Fruit" are words to juggle with and the simple fact that fruits are grown in California is sufficient. But more and more it is being proven to us that only the highest grade fruit can be marketed with profit. We have looked upon the Panama Canal as all our own, and indeed it will be a great advantage to the entire Pacific Coast by furnishing an outlet for our products. But let us not close our eyes to the fact that there will be others looking to the same outlet. This should spur us on to meet the competition with a quality of fruit which others cannot equal.

## Green Manure Crops.

NEXT WEEK'S ISSUE of the Cultivator will be given up almost entirely to an article on green manure crops, or rather to a symposium of articles provided by subscribers to the Cultivator in various parts of the state.

Of course cover crops have been a factor of agriculture from time immemorial, but the practical and more general use is of comparatively recent origin. It began in the orange groves of Southern California and has now extended to vineyards and orchards in all sections of the state, and we believe the effort to gather together the fund of information which will be published next week, will be appreciated by the readers of the Cultivator.

Unfortunately the low price prevailing in the past for vetch seed has been ended, either by a combination of the large handlers of the seed, or possibly by shortage, as the dealers claim, and it will cost the farmer nearly twice as much as it did last year. But regardless of the price of seed, the use of the cover crop has come to stay, for as some of our contributors will say next week, the saving in cultivation of the orchards through the winter is sufficient to cover cost of seed and seeding. And that saving is of small account compared to the saving from soil erosion in times of storm, to the addition of humus to the soil, the increase of nitrogen, and the making available of other soil elements.

A half dozen illustrations of various legumes and of the nodules on the roots will be used in this number. This will be an issue worth waiting for, and we give out these hints that our subscribers may be planning for their green manure crops, for it is none too early to shape the land for the seed. The next few weeks should see all the seed in the ground.

## Lemon Men's Club.

ONE OF THE LIVE and up-to-date horticultural clubs of the state is the Lemon Men's Club of Southern California. It has been a factor in advancing the interests of its members. It has held many meetings at which cultural and other subjects have been discussed, but believing that "He that maketh good use of any part of his life, must allow a large proportion of it to recreation," the members of the club will spend one day, September 11th at San Fernando. Part of the day will be spent in visiting the olive and lemon orchards of the valley and the Old Mission, and at noon time luncheon will be served to members at the ranch of Mr. C. D. Hubbard. After luncheon a business session will be held and an address delivered by Mr. J. A. Reid who has spent the summer amongst the orange groves of Florida.

## Fair Attractions.

WE HAVE RECEIVED a copy of the premium list of the Minnesota State Fair which announces that there will be many "spectacular productions, expensive and sensational." Among the features of the program are: Hilda Caroli, The Australian Ballet, The Sisters Brazelly, The Carmen Troupe, The Fat Navarro Troupe, Rex's Comedy Circus, The Up-Side Down Zeraldas, Mlle Omega (who by the way possesses "daring beauty"), and Luken's Trained Lions—and this is not a third of the attractions offered—and each day's program is to be ended with a dazzling display of Gregory's Fireworks—all of which is exceedingly agricultural, almost equal, by the way, to the great bar-maid attaction of California's State Fair. Later in the premium list are announced premiums for genuine agricultural products. It is possible they are not secondary to the "attractions" on the program, but it would look so to an outsider.

By the way that bar-maid feature is serving to give our state fair a wonderful lot of free advertising. To many of us it may be a class of advertising which is not relished, but it is at least making known the fact that we have a state fair and that one of its features is the adoption of a custom of European countries in having young women to serve wines to those who may wish to purchase. The opinions so far expressed have been rather scathing, and we presume the administration has heard before this from many sections that this is one European custom which will not be received with open arms in this state.

## Ornamental Eucalypts.

THE FIRST PAGE article this week written by Mr. Coates of Morganhill, calls attention to the eucalyptus as a tree possessing great beauty. We have often heard the expression that a street has been planted "only" to eucalyptus, but the more observant have seen great beauty in these trees, especially in the more arnamental varieties. Mr. Coates gives a list of the most desirable and from it some of the most beautiful avenue trees may be selected. In fact our old staid and tried friend the blue gum is very beautiful for roadside planting when kept in proper form. It is such a rapid grower that much work is necessary to keep it in shape. We admit that it is not a very clean tree, owing to the shedding of bark and dropping of leaves, but this last objection applies to practically any tree which may be planted.

## Board of Examiners.

THE BOARD appointed by Governor Pardee to examine as to qualifications of horticultural commissioners of the various counties, has finally got into working shape. The board is now made up of A. T. Garey of Los Angeles, E. K. Carnes of Sacramento, and Mr. Collier of Corona. The organization was perfected in Los Angeles last week by the election of Mr. Garey as President. Work will begin at once, questions will be outlined, and a little later, dates will be announced for examination of applicants in the different counties.

## State Fruit Growers Convention.

WE NOTE the announcement that the state fruit growers will convene on the 6th of December in Watsonville. Appeal has been made by local fruit growers of Watsonville to their Board of Trade and others, to rise to the occasion and give a rousing welcome to delegates who will visit the city from all parts of the state. We imagine that this year's session of the convention will be an important one. There are many new questions of interest before the fruit growers and some of the old ones which have been before former conventions are still unsettled.

# Agricultural News Notes of the Pacific Coast

## Northern California

Crushing wine grapes will begin in a few days.

Hop picking is in full swing over the Sacramento Valley.

The drying of prunes is in full swing in Sutter county.

Meridian, Sutter county, is soon to have an alfalfa meal mill.

Over 100,000 acres will be reclaimed in the Sutter Basin.

Yuba City is sending out about 500 tons of Thompson Seedless grapes.

Chico, Butte county, reports exceptionally heavy crop of almonds.

Ground squirrels are doing great damage to the orchards of Yuba county.

A Yuba City grape grower has received $25 per ton for his Thompson Seedless.

The Sonoma county Pomona grange held its last regular meeting at Two Rock.

Great damage was done by codling moth in the pear orchards of Mendocino county.

Extensions of telephone service will be made to many farm sections of Solano county.

An explosion caused by gas occurred in the Marysville Cannery, doing considerable damage.

Prof. M. E. Jaffa will conduct a number of feeding experiments at the Petaluma state poultry farm.

Large receipts of Muir peaches at Vina drying yards are taxing the yards to their fullest capacity.

The demand for help to gather the fruit of orchards in Gridley, Butte county is far in excess of the supply.

The Diamond Match Co. is planning to save the by-products from its large mills, in the form of paper pulp.

Those in charge of the plant introduction garden at Chico contemplate a series of experiments in bybridizing.

The southern part of Humboldt county is showing a rather lighter hay crop than usual, but it is of exceptional quality.

One large land owner at Yreka, Siskiyou county, has filed on 12,000 inches of various streams to secure water for irrigation.

Willows, Glenn county, has been experimenting with tobacco production and has some exceptionally fine samples of the weed.

The board of equalization has found that suburban land in San Mateo county which is held at $4000 an acre has been assessed as wheat at a nominal figure.

The State Farm at Davis has a herd of young stock inoculated something over a year ago with the germs of tuberculosis. This was for the purpose of scientific observation.

A meeting of farmers of a part of the Sacramento Valley was held at Rio Vista for the purpose of considering the plan by which the state and government engineers should deepen and straighten the channel of the river.

## Central California

Capitola will hold farmers institute September 10 and 11.

San Jose has 150 people employed in the apricot pit cracker.

Poplar, Tulare county, is proving to be a good melon section.

The Turlock Journal says that this year's Elberta peaches are the finest ever.

Last week was the banner week in Fresno county for green fruit shipments.

A Kingsburg man has invented and patented a machine for cutting peaches.

Delano, Kern county, is making an appeal for a creamery and has fair promise of one.

A Salinas Valley threshing machine claims the record of 259,950 pounds of barley in a single day.

Pajaro Valley will ship 500 tons of dried apricots for which it is hoped to secure $80,000 or $90,000.

The farmers union of Fresno county has opened two new shipping points within the last week.

Raisins are now commanding two cents per pound, and a few have been found willing to sell at that price.

One party has filed on 30,000 inches of water of the San Benito near where it empties into the Pajaro River.

A force of men is at work on the grounds of Tulare County Agricultural Fair which will be held September 13-18.

Hundreds of carloads of watermelons, cantaloupes, peaches and grapes have been shipped from Turlock in the past few days.

Turlock fruit growers are making a vigorous kick because San Francisco shippers are shipping their fruit without Turlock label.

The big hay warehouses at Tres Pinos and Hollister are filled with hay. It is estimated that by the end of the season 1500 tons of hay will be stored.

Seven hundred and fifty tons of kernel meats of apricot pits are shipped to Germany every year from California.

Monterey county Chamber of Commerce will prepare and maintain an exhibit in the State Board of Trade at San Francisco.

The Pajaro Valley apple growers will make an exhibit of apples this fall at the National Apple Show to be held in Spokane November 15 to 20.

The San Joaquin county table grape growers have decided to build and equip four packing sheds at Lodi, Woodbridge, Norton, and Eight Mile Road.

A Redlands man promises to establish a $100,000 olive factory in Fresno, providing sufficient fruit can be assured him and proper inducements are made.

Arrangements have been completed for the construction of a large reservoir as auxiliary to the canal system of Modesto. The reservoir is 30 miles in circumference and 25 feet deep.

## Southern California

Corona is shipping honey to Trinidad, Colorado.

One ranch in the Anteiope Valley is now fattening 700 steers.

Orange county has launched with much enthusiasm a good roads campaign.

Some of the date palm trees in Coachella Valley are loaded with fruit.

In a little over a month cotton pickers will begin work in the Imperial Valley.

A company has purchased and will install a cotton gin at El Centro, Imperial county.

All indications are that this is going to be a good celery year for Orange county.

The drier, warmer weather has been injurious to the bean fields of Ventura county.

The horticultural commissioners of Imperial Co. have begun a war of extermination on dodder.

Over 3000 Indians gathered in honor of the 105th anniversary of the Pala Mission in San Diego county.

The Rialto Orange Company paid to its members $1.50 per hundred pounds for all navels delivered.

A rumored strike at the Santa Ana sugar factory showed a loss of only eleven men out of two hundred.

Stock men have found the forest reserves in Southern California show much better grazing than ever before.

Grape growers at Brawley are finding much difficulty in getting satisfactory returns from commission men.

Coachella Valley farmers are becoming concerned as to the possibilities of Johnson grass proving hard to eradicate.

The Dairymen's branch of the farmers union held a session in Imperial last week and elected permanent officers.

Enough local farmers unions have been organized in the Imperial Valley so that a county union is now contemplated.

Southern California Sugar Company at Santa Ana held its annual meeting last week, and re-elected same directors.

Orange growers are concerned over the high price and scarcity of vetch seed this year. Prices are nearly double those of last year.

The Southern California Pathological Laboratory is continuing its studies in celery blight of the Orange county celery fields.

Imperial Valley is not content with its transportation facilities and has organized a transportation company which will handle freight by autos.

Examination will be held at various Southern California points on October 25th and 26th touching upon qualifications of applicants for positions in forest service.

The output of sweet potatoes from Orange county will be much shorter than usual. It is estimated now it will not exceed 11,000 sacks as against 25,000 last year.

## The Coast

Watermelons in Seattle are selling at $30 a ton.

Prune growers at Freewater, Wash., are receiving $32 and $33 per ton.

Farmington, Wash., farmers report 50 to 60 bushels per acre from their wheat.

Orchardists of Eastern Oregon are crowding many of the cattle men off the earth.

Salem, Ore., reports a heavy rain storm which did great good to the hop yards.

Colorado will ship this year in excess of 3500 cars of apples as against 1700 last year.

Umatilla county, Oregon, reports the biggest yield of wheat and the best prices ever.

The owner of a 40-acre apple orchard at Sunnyside, Wash., nets $8,500 for this year's crop.

A Wenatchee, Washington, apple grower has just sold his twenty acres of apple orchard for $23,500.

Arizona watermelon growers have had a successful year, and the acreage was much greater than last year.

Pendleton, Oregon, huckleberries are so plentiful that people are flocking from all sections to the mountains for gathering.

Farmers union warehouse at Coleman, Wash., is receiving wheat in immense quantities. One day's receipts showed 5000 sacks.

The water in the irrigating systems near Phoenix, Arizona, is holding up exceedingly well and is giving a full supply to the irrigators.

The first annual meeting of the Pacific Slope Association of Economic Entomologists was held at Portland, Ore., August 20 and 21.

Farmers and orchardists of Colorado estimate an income of $110,000,000 from their crops this year. Last year the total return was $70,000,000.

The Wenatchee Valley, Wash., Fruit Growers Association announces that it will have about 200 cars of high grade apples for shipment this year. The association is advertising for sealed bids for the entire output.

A deal was recently closed at Kennewick, Wash., whereby the Commercial Orchard Land Co. has invested $1,000,000 in Horse Heaven lands, which will soon be covered with irrigation water.

The endorsement by the Association of State and National Berry and Food Departments convened in Denver last week, of the decision of the National Food Commission which permitted the use of benzoate of soda as a food preservative, has caused much comment the country over.

At the meeting of the American Association of Farmers Institute workers at Portland last week, the following officers were elected for the coming year: President, G. A. Putnam, Toronto, Ont.; vice-president, A. M. Soule, Athens, Ga.; secretary treasurer, John Hamilton, Washington, D. C.; executive committee, W. G. G. Clarke, Berkeley, Cal.; Vale Keyser, Lincoln, Neb.; Franklin Dye, Trenton, N. J.

# For Eggs Next Fall Feed Now

# West Coast Egg Food

Don't make the common mistake of supposing that you can let the fowls get all run down before or during molting and then bring them up by heavy feeding later. You won't get eggs that way. They must be kept in good condition and fed feather producing and egg making food. We know how to make rightly balanced rations for such purposes. That is our business, and we have the best equipped mill for doing it, or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg Food, as good as anybody can make, by using

# EGG MORE

and you will get no unsound grain, no mill refuse and such stuffs, as are in many concoctions called Egg Food. Egg-More is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs if you feed it just a little each day. 25 lb. sack, $1.90; 50 lbs., $3.60; 100 lbs., $7.00. If not kept by your dealer we will prepay freight within 300 miles.

## West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

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**Feed**

# MIDLAND

## Poultry Food No. 4

***$1.95 per Sack***

Midland moulting food is a balanced ration for the moulting hen and is absolutely the best food to feed for eggs and feathers. By feeding No. 4 now you bring your flock through the moult in good condition, which insures eggs when the market is high.

***Petaluma Incubators and Brooders***

Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

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**WHITE WYANDOTTES**

Eggs for batching September 1st '09. Write for circular.

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# Profit in the Poultry Yard

We solicit short articles of a practical nature from the farmer and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

### GET READY TO SHOW.

(By Mrs. Frank Metcalf.)

ALL who have extra good specimens of poultry should take pains to exhibit their best birds at fairs and shows in the most attractive manner. The dark colored birds will need washing, only as to feet and beaks, but their plumage may be brightened perceptibly by being well smoothed with an old silk handkerchief, being careful to rub only the way the feathers grow, never "against the grain." If the combs seem a little pale wet a rag in alcohol and rub lightly, and the color will brighten considerably. Weigh your birds and compare with Standard weights, but do not leave a good bird at home because he or she may fall short a pound or two, for many do that, and no judge expects a 100 point bird, and would likely drop dead of surprise if he found one.

The white birds must be washed and washed well, then dried throughout in a warm place where no draught of wind can strike them during the drying process. Anyone who has never washed a lot of birds for showing, will find this a difficult task, but it can and must be done. At midday, at this time of year, a room exposed to the sun should be plenty warm enough, if no open doors or windows are allowed.

Have ready three tubs of warm water, one a lather of excellent soap suds, for no soap must be rubbed directly on the plumage, remember. One clean warm water for rinsing the suds well out, and one slightly blued for the last rinsing.

Take the bird in the left hand, plunge it under the soapsuds up to the head and rub well into the feathers, working clear down to the skin and working quickly as possible to do a thorough job, wash the head last being careful not to get the soap into the eyes. Now squeeze out all the soap suds possible and plunge into the rinsing bath, and go through the same thorough process to get all the soap suds out, or the feathers will be sticky when dry. Lastly plunge into the bluing water, squeezing as before. Place in a dry coop facing the sun with plenty of shavings or clean straw.

The feet and legs should be left to the last as that is too tedious a job to finish all at once. Two tubs will be all that are needed for this, one of soap suds, and one for rinsing. A small brush is useful here to get the dirt out of the scales, although a toothpick may be necessary for the best results, painstakingly cleaning under each scale, and nail. A very little sweet oil may be rubbed over the shanks and feet when dry, which improves the gloss lost through the washing process.

If there is no sunny room where this work can be done it would better be done where there is a fire, say an oil stove, even.

Plenty of soft old cloths should be at hand to dry them on after the last rinsing, as this will help greatly in hastening said drying process. If your farm has a name, (as it should certainly have), make some neat coops, paint them a pretty, light color and stencil the name of the variety, your name as breeder and the name of the farm where they were bred upon the box and exhibit them in these.

A pair should have a box at least 18 inches square and 24 inches high.

Figure 2.

A pen (four females and a male) should have a box three feet square, with wire netting on three sides, or just front and back as desired. These crates may be kept from year to year and if taken care of, will last almost a lifetime.

Now, in mating up a pen, remember that they don't all have to be of the same age and you can show part hens and part pullets, just so they are uniform as to color and size. And furthermore, a bird in a cage, nicely cleaned up and on exhibition seems to take on an added attractiveness, and outshine his equally good brother strutting around in his everyday clothes at home. Wonder if they are not a little like humans in this respect.—Mrs. Metcalf.

### THE FEEDING TROUGH.

The difficulty of keeping the feed clean and dry during continued exposure is nearly overcome by using troughs with slatted sides and broad, detachable roofs( figs. 2 and 3). The troughs are from 6 to 10 feet long, with sides 5 inches high. The lath slats are 2 inches apart, and the troughs are 16 inches high from floor to roof. The roofs project about 2 inches at the sides and effectually keep out the rain except when high winds prevail.

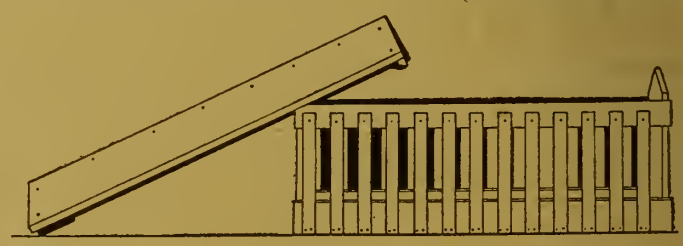

Figure 3.

The roof is very easily removed by lifting one end and sliding it endwise on the opposite gable end on which it rests, as shown in figure 3. The trough can then be filled and the roof drawn back into place without lifting it. This arrangement is economical of feed, keeping it in good condition and avoiding waste. When dry mash is used there may be considerable waste by the finer parts being blown away, and on this account the dry-mash trough should be put in a sheltered place out of the reach of the wind.—From Cyclopedia of American Agriculture.

## POULTRY QUERIES.

**Ticks.**

Will you kindly answer a few questions concerning my chickens? They were covered with lice, a gray louse like a duck louse and some large flat ones. I mixed a dip of Napthol Kali and dipped the flock. I examined them a week after, and found a small insect which was black and almost as large as a pin-head. I found these insects with their heads buried in the flesh of the chicken. The most of them were on the breast and under the wings. The odor of the Napthol Kali solution I used is still very strong on all of them. I have never seen or heard of the kind.—T. P. L., Elk Grove.

Our correspondent is up against ticks, one of the worst pests of California. As they burrow into the flesh of the birds, they are almost impossible to kill, and will sap the lifeblood of the fowls until they grow to the size of watermelon seeds. The best way to treat these pests is to dip the fowls in tobacco tea, as is recommended for sheep and lambs. Take one pound of cheap plug tobacco, boil up in one gallon of water, then add six gallons more water and dip the fowls, rubbing the infected spots especially well, and noting results. If not strong enough to cause the ticks to loosen their hold and drop off, make the tea stronger and dip again but think this strength sufficient. The houses and roosts should be well sprayed with the tobacco tea also, and the treatment repeated in a week's time.

This tea will kill any kind of lice, and is the only dip of which I know that is said to be a certain tick-killer, although creolium is claimed to be effective. Sometimes an especially large and vigorous tick will be found which may be pulled out bodily and killed, or its body snipped off with a small pair of scissors, and one will be surprised what a strong hold these fiends obtain in the flesh of their poor victim.

Owls, weasels and all wiid animals are infested with a tick similar to this, and some kinds of wood seem to harbor them. Please report results of using the tobacco tea.—Mrs. Frank Metcalf.

## VALUE OF LAND PLASTER.

The value of land plaster is appreciated by the farmer, and where its action is understood it is liberally used. Were this knowledge more general, land plaster would be used to much greater extent. So with the poultryman, to whom plaster is of great value. The writer will endeavor to make plain its action, and show its advantages to the poultryman.

Land plaster being a sulphite of lime is insoluble until decomposed, which it readily does in presence of nitrogen (ammonia). The sulphuric acid in plaster having a greater affinity for ammonia, leaves the lime and forms sulphite of ammonia, which is soluble. The farmer sows the plaster on his sod after a rain and the ammonia which is constantly given off by the soil is fixed as sulphite of ammonia and gradually fed to the growing plants by the dews and rains, otherwise this ammonia scorches the vegetation and destroys value for food. Notice a cornfield in the drought season; how the leaves curl up and are finally dried up. Now drop a little land plaster in the bud and after a dew, see how quickly it freshens up and looks green and healthy. Cattle turned on a sod that was treated in the spring will thrive and fatten much faster and better than on as good a sod not treated. So fowls will eat the grass that has been freshened up with plaster with greater avidity and they will get lime in its best form, and they will be healthier and do better generally. In the hen house, too, the plaster acts a good part; dusting the dropping board with it makes it easy to clean and keeps it sweet and odorless. The manure is easier handled and is more valuable when mixed with plaster which fixes the ammonia otherwise lost. The writer practically whitewashes his house every morning, after removing the droppings, everything—dropping board, roosts, floor, etc., are heavily dusted with the plaster with the result that there is never an odor and the fowls breathe a sweet, pure air instead of the pungent, irritating, ammonia-laden air. Then, too, lice and mites can not live where plaster is freely dusted. Try the plaster a few days and it will always be used. —The Feather.

---

There is nothing better for growing chicks than a meal of millet now and then, but bury it in litter and make them cratch for it.

---

Beef liver, boiled and mashed with meal, is greatly relished, but feed it moderately.

---

Feed generously if you expect to harvest a generous egg product.


Coulson's
POULTRY FOODS
**Growing Chick Food**

Can be fed damp as a mash or dry in hoppers. Feed it to your chicks up to 3 months old. Gives rapid growth and health.

It will save your grain bill, and you cannot afford to be without it.

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*Toulouse* *Embden*

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**Have You Tried**
**Coulson's**
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**for Poultry?**

A first-class tonic and conditioner like ***Coulson's No. 3 Condition Powder*** is of great benefit to the chickens, especially when used at this time of year.

***Coulson's No. 3 Condition Powders*** will prevent diseases, by keeping the flock in a thoroughly healthy condition. By the same means it will keep them laying longer into the molt, and their healthy condition will enable them to molt quickly and commence laying at an early date. As it contains no injurious stimulant, it can be used with perfect safety at all times and for this reason is fed in large quantities by numerous poultrymen.

**It Contains No Cheap Filler**

In buying a bucket or sack, therefore, every pound is of value to the chickens, and will give you large returns for the money invested.

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**Testimonial**

Coulson Co., Petaluma, Cal. Petaluma, Cal., July 21, 1908.

Gentlemen—I consider your ***No. 3 Condition Powders*** an excellent tonic to put laying hens in good condition. H. A. GEORGE.

**DIP YOUR HENS**

**When? - - - - - - Now**

Molting time is the best time in the entire year to dip your fowls.

Kill all the lice and vermin and let Biddy start in the new year in a good healthy condition in her new coat.

**In What? -- Creolium**

CREOLIUM is a coal tar preparation and and is the greatest germ destroyer and disinfectant known to the poultryman of the present day.

It is Anti-Toxin and Non-Poisonous.

The PACIFIC POULTRY COMPANY has used CREOLIUM and nothing else for years as a spray for the houses and a dip for the fowls, to keep their thousands of birds clean and healthy. What more testimonial or guarantee could you ask?

It is not expensive for in nearly every instance it is diluted to one part CREOLIUM to 50 parts water, sometimes even more.

It is an indispensable remedy for the stable and among the cattle.

PRICES AS FOLLOWS:

Quarts, $1.00 Gallons $2.50

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Special rates on large quantities.

Mail orders filled promptly, if money accompanies order.

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My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
***C. A. MURPHY, PERKINS, CAL.***

# Irrigation and Forestry

## THE PINCHOT-BALLINGER CONTROVERSY.

THE controversy between Chief Forester of the United States Gifford Pinchot and Secretary of the Interior Richard A. Ballinger is one in which every citizen has an interest. It involves an issue of tremendous importance. Its outcome will determine to a great extent whether or not this generation and future generations will have saddled upon them another monopoly, more powerful than any of our present trusts,—a gigantic water power combination.

The people must take sides in this fight, for at bottom it is the people's fight. This fact must not be forgotten. Pinchot and Ballinger now occupy the center of the arena. For the moment they are the principal figures in the struggle. But back of them are two great opposing forces. On the one side is an army of citizens who are determined upon the wise conservation of our natural resources and the protection of the rights of the public in these resources. On the other side are the hosts of Privilege, bent upon securing at any cost, for private exploitation, the natural resources that still remain in the hands of the public.

The differences between Pinchot and Ballinger may be of a personal nature; but all the evidence indicates that they arise from a radical disagreement as to the disposition of the public domain. Pinchot is trying to carry forward the Roosevelt policy. Ballinger has a policy of his own, which is quite different.

What are these policies? A bit of very recent history contains an answer. Shortly before the close of his administration, President Roosevelt got wind of the fact that certain water power interests, and their business allies, were quietly proceeding to get control of the choicest available water power sites on the government lands. The enterprises and the capital behind this scheme, as well as the wide scope of its operation, convinced the president that here was the beginning of a great, national water power trust. Such a monopoly would be in a position to levy tribute upon the people of the country for years to come, for water power will soon replace coal in the production of electric current to turn the wheels of industry. So he promptly took steps to thwart it. He sent experts into the field who reported that the water power interests already had their men out getting maps of the desirable locations. Then he had withdrawn from entry government lands containing water power sites to the extent of millions of acres. His last act as President was for the public good.

Secretary Ballinger had no sooner taken office than he threw open these lands to entry. His first official act was a reversal of the Roosevelt policy and an open sesame to wholesale land grabs. The interests again had a clear field.

But not without protest. The opening up of these lands by Mr. Ballinger had not gone on for many weeks, when the President began to hear from the public. And then certain of these lands were again withdrawn. Ballinger was forced to modify his first order. Washington correspondents state that President Taft summoned Secretary Ballinger and ordered him to restore these lands again to public control. However that may be, restoration was made, to a degree, but not until an opportunity had been given the water power magnates to get in on the ground.

Mr. Ballinger's declaration at the convention of the National Irrigation Congress in Spokane last week, that his policy was to encourage the development of irrigation and water power projects by private capital, together with his statement that in his opinion the irrigated lands of the West were no place for a "poor man," and his action in throwing open the lands containing the water power sites to entry, can mean nothing else but a conviction on his part that the future of the West shoud be placed in the hands of large aggregations of capital instead of parceling the land out to the settler and the homesteader to make into farms and homes under the patronage of the government. His statement that the administration would expend no more money upon irrigation projects gives added force to this conclusion, since without government aid, no other way is left open for the construction of such works except private enterprise, which in this case unquestionably means ultimate monopolistic control.

Mr. Ballinger's policy is very satisfactory to Big Business. The agents and representatives of the corporations who are seeking control of the lands in question were among his loudest defenders at the irrigation congress. If Mr. Ballinger pushed his policy to the extent of securing the removal of Mr. Pinchot, the Interests would be still better pleased. For they fear the Chief Forester. In his implacable opposition to the monopolistic acquirement of the public's water power sites, they find the most serious obstacles to the carrying out of their program. But the people, in whose interest and in whose children's interest, Roosevelt, Garfield and Pinchot prevented the public rights from falling into the hands of Big Business, will have only condemnation for a public official with so little regard for their interests or with so little understanding of the consequences of his trust-favoring policy.—La Follette's.

## OUR TIMBER SUPPLY.

The original forests of the United States, which in the quantity and variety of their timber exceeded the forests of any other region of similar size on the globe, have been reduced by cutting, clearing, and fire from an acreage of 850 million to one of not more than 550 million, with a total stand of some 2,500 billion board feet.

Most of our forests are private property. About one-fifth of the standing timber in the country is held by the Federal Government in national forests, Indian reservations, national parks, and on the unreserved public domain, and by the States in State reserves or other State lands. These public forests contain more than 100 million acres of saw timber.

The private forests are of two distinct classes, (1) farmers' woodlots and (2) large holdings, either individual or corporate. The woodlots are chiefly scattered and detached remnants of the original forests. They are mainly in the eastern half of the United States and cover some 200 million acres, with a stand of perhaps 300 billion board feet of saw timber and 1½ billion cords of wood. Aside from their protective and ornamental value, they furnish much firewood, many posts, poles, and cross-ties, and some lumber and cooperage stock.

The large private holdings contain about 1,790 billion feet. These holdings generally include the best timber in the regions in which they occur. They are the principal sources of the lumber which is used today, and upon the manner in which they are managed depends in a large degree the timber supply of the future.

The value of the forest products of the United States in 1907, the last year for which detailed data are available, was approximately $1,280,000,000.

The fact that timber has been cheap and abundant has made us careless of its production and reckless in its use. We are cutting our forests three times as fast as they are growing. We take 250 cubic feet of wood per capita annually from our forests, while Germany uses only 37 cubic feet and France but 25. On the other hand, Germany makes her state forests produce an average of 48 cubic feet of wood per capita.

The necessity for more farm land may eventually reduce our total forest area to 100 million acres less than it is at present. It is entirely possible, however, to produce on 450 million acres as much wood as a population much greater than we have now will really need if all the forest land is brought to its highest producing capacity and if the product is economically and completely utilized.

In Forest Service Circular 166, entitled "The Timber Supply of the United States," just issued by the Department of Agriculture, the attempt is made to answer many questions which are constantly arising concerning the extent of our forest resources, their ownership, the rate at which they are being cut, and the outlook for a future timber supply.


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Deliver a continuous stream from lower end of cylinder in well to point of discharge.
They run continuously day and night without care or attention except to oil.

All of the valves or working parts of both our single and double acting pumps can be removed, repaired and replaced without pulling up the cylinder or heavy column pipe or moving the power head off of its foundation.

Write **A. T. Ames Manufacturing Co., Niles, Cal.** for Catalog

# General Agriculture

## NURSE CROP NOT BEST FOR ALFALFA

THE practice of sowing a nurse crop with alfalfa was inaugurated when the nature of the plant was not as well understood as now. It was also somewhat on the theory too that "a half-loaf is better than no bread." It began when there was a good deal of doubt about "getting a stand," and the farmer thought no doubt that a crop of oats or barley would pay for the plowing even if the alfalfa failed. While the practice is continued by many, the prevalent later method is to provide no nurse crop. Few who have abandoned the nurse crop have returned to it. The alfalfa plant does not need protection from the sun, nor is it bettered by dividing any of the soil moisture or fertility with another crop. On the other hand if alfalfa is sowed in the spring, it is important that it obtain an early start in order that its roots can quickly work down into the moisture of the subsoil, against the dry days of July and August. When a nurse crop of any vigor is removed the alfalfa plants are likely to be found weak, spindling and with little root growth; the nurse crop has also taken up some of the soil nitrogen needed by the young alfalfa; or if the nurse crop is heavy and has lodged, there will be left bare spots, where the alfalfa has been smothered out.

Cutting the nurse crop is likely to be attended with no little damage to the tender alfalfa plants by trampling their crowns into the ground, or breaking them off. Practically all the experiment stations favor sowing alone. With few exceptions the second and third years have brought heavier yields where no nurse crop was used. The theory that the nurse crop will prevent the weeds choking the alfalfa is apparently, as a rule, not well founded. In the first place alfalfa should not be sown on foul land, and in the second place proper disking and harrowing, at near intervals for four or six weeks before sowing, will disturb or kill far more weeds than can any nurse crop. Besides, the oats or barley sown as a nurse will when cut leave weeds in good growth, or dormant and ready to spring up as fast or faster than the alfalfa. No nurse crop is ever used with fall sowing. When ground has been properly prepared for the preceding crop, and then properly cared for, and made ready for the alfalfa by the preliminary weed destruction, it will be found advisable to sow alfalfa alone, even in the spring.—From Coburn's "The Book of Alfalfa."

## PLANT BREEDING.

It is probable that the department of agricultural science which will most benefit the human race in future years is that of plant breeding. Hitherto but little has been achieved by the scientific plant breeder, that is, little in comparison with the boundless store of varieties of plants suited to fulfil peculiar economic conditions which, it is predicted, will be evolved by the operation of principles which are now coming to be understood and successfully applied. It is true that our cultivated varieties of fruits, flowers and grains have been produced from elementary ancestors of little resemblance to their luxuriant descendants, but the process of evolution has been achieved only after great duration of time and often under methods whose true scientific principles were little understood. At first primitive man gathered from their native habitat the few uninviting roots and seeds with which he appeased his hunger. The first step towards improvement of such food plants took place when in order to save the labor of gathering, he planted them near his home and aided their development by working the soil and discovered the beneficial use of fertilizer. Then commenced a long and slow period of advancement. By selection of the more promising plants as parents for the new crop, the hard woody qualities of the primitive ancestors of our vegetables developed into the soft and succulent varieties of our garden crops. The hard and acrid berries of the vine and tree mellowed into the generous and luscious grape, apple and peach.

All this, however, necessitated many centuries of laborious work and many of the advances taken were no doubt unconscious. At length in China and ancient Rome the breeding of plants came to be looked upon as a regular profession, and to these countries and to the members of the monastic houses of the middle ages are to be attributed many of the most direct advances in plant production. It is only now, however, that the principles lying at the basis of the improvement of plant stocks are beginning to be applied and that scientific agriculturists are consciously breeding plants for specific purposes. Given time, and that a not too distant date, the modern plant breeder will produce types of plants to resist particular fungus and insect pests; he will evolve varieties of economic plants to flourish in climatic conditions now considered impossible for their existence; he will multiply their production three-fold; and finally by combination he will produce new breeds of plants of entirely new type.—Hawaiian Agriculturist.

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J. E. Woodford, of Coffey county, Kansas, April 1, 1905, placed ten choice pure-bred Poland-China brood sows from 12 to 18 months old, that were due to farrow in the latter days of June, on a five-acre field of alfalfa. They were given no other feed than the alfalfa pasturage until they had farrowed and their pigs were a week old. After that the sows had in addition to the alfalfa some bran slop until about August 20, when new corn was fit for feeding. He wrote: "The sows from the time they were turned on the alfalfa until the last week in June made a remarkable growth, besides gaining somewhat in flesh. They did well with their pigs, reared an average of seven to each sow, and as sucklers they were a sight to see. The pigs were the most attractive bunch ever raised in Coffey county, as admitted by our breeding competitors. We weighed a gilt from this lot when six months and five days old, and her weight of 225 pounds was not above the average of the whole lot. In our lifelong experience in rearing swine we have found nothing as a grazing crop for swine that in value approaches alfalfa."—From Coburn's "Swine in America."


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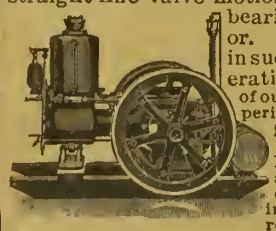

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# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

## QUERIES.

So many questions come to the Cultivator for answer with insufficient detail to enable us to give intelligible reply, that we again make a few suggestions. There is no necessity whatever for a long, rambling letter touching all around the subject, but rather a few concise statements defining exactly the situation, with, so far as can be judged, an indication of the cause of the trouble. We feel that one trouble with some inquirers is lack of observation and, if the Cultivator may be pardoned the suggestion, that is just what the farmer needs in order to meet successfully his varied problems. Very often queries come in regarding questions which have been answered many times and sometimes only a week or a few weeks prior to sending them in. For example, the question of aphis. We do not believe there has been a week during the past six months when questions regarding this pest have not been received at this office. After we have repeatedly referred to the fact that ants herd and care for the aphis and live upon the honey dew which they exude, still there continue to come in references to ants destroying the tips of tender growth, with sometimes incidental reference to "small soft green bugs" also occurring on the same tender tips. Now a close observer will soon see that these soft green bugs are doing the mischief, and the ants do not in any way injure the plants except that they protect and sometimes aid in spreading the aphis.

Hence we say, look at all conditions surrounding the plant or insect about which information is desired.

State fully the symptoms and description of the trouble as seen.

If the information desired can be better secured by sending in leaves or entire plants, wrap the specimens in moist (not wet) paper and get them to the office as soon as possible. Recently a pea vine, which so far as could be determined was seriously affected with mildew, was received in such a dried condition that there could be no assurance that such was the case.

We wish to make the query column the most helpful feature of the Cultivator, and it is a question of no little expense, so we ask you to aid us to give as intelligent answers as possible.

Also bear in mind that one of the essentials for securing prompt and proper attention is the sending of the full name of the writer. If you wish only initials or name other than your own to appear at end of question in the paper, they may be signed immediately after the communication to us, but the full name should be written below that or somewhere in the letter so that we may know from whom it comes.

Do not be impatient if the answer does not appear the week following the mailing of the question. In all probability the question has been mailed to some contributor or specialist particularly qualified to answer. Some, of course, are answered in the office. Again, others are such as must be referred to practical experts, some even at the northern end of the state. Therefore, allow us a week or two for reply.

### Fleas.

Please tell me how to rid a place of fleas. They are in, around and under the barn, and under the house. They are of a very small variety, but terrors to the chickens.—E. D., Auld, Riverside Co.

The best remedy for fleas is a thorough and absolute cleaning up of the pemises. If possible, tear up the old floors and take out the dirt which is abounding in decaying wood or vegetable matter, which affords a breeding place for the young, and whitewash everything. If they are troublesome in the house, the taking up of carpets, replacing by rugs that can be cleaned often and thoroughly, will help matters. The little fellows are so exceedingly lively that the place may not be so thoroughly infested as may appear. If the space underneath house or barn is enclosed so that sulphur fumes may be retained to suffocate the fleas, that will be beneficial. Spraying with insecticides will also help.

### Eucalyptus For Moist Land.

In regard to J. K. G. inquiry as to eucalyptus for moist land, I have rostrata growing on land that has been four feet under water as late as July, and the wetter it was, the better they grew. I find rosrata will stand more frost than blue gum.—A. E. R., Laton.

### Green Aphis.

Please let me know if the insect on enclosed pea vine is the green aphis. It has practically destroyed the pea crop of Humboldt county. Can it be effectively controlled? Have tried weak solution of coal oil, also tobacco tea. Either kills those that are exposed, but many are protected by the leaves.—J. B. M., Loleta.

The specimens sent are green aphis which is very destructive this season. In large fields as soon as it begins to infest the vines, they should be destroyed to prevent spread of the pest. They are easily reached with any weak insecticide, but reproduce with such fearful rapidity that spraying is of little value.

### Grape Juice, Bleached Raisins.

Please tell me how to prepare unfermented grape juice, also how to bleach raisins.—A. M. Starr, Ontario.

For information as to preparing unfermented grape juice see Cultivator of September 12, 1907.

Raisins are sometimes dipped in a solution made of one pound of potash and twelve gallons of water, the solution to be boiling hot. The ripe fruit is dipped in this boiling liquid for an instant, then plunged in fresh water for a thorough rinsing and placed on trays to dry. If the weather is dry, as it usually is at this season of the year in the interior, the raisins will dry very quickly and have a very handsome amber color. The drying is often done with trays stacked to prevent over drying if the weather is very hot and dry. Wickson gives an oil dip for raisins as follows:

One quart olive oil; ¾ pound Greenbank soda and 3 quarts water are made into an emulsion, and then reduced with ten gallons water in the dipping tank, adding more soda to get lye strength enough to cut the skins, and more soda has to be added from time to time to keep up the strength. The grapes are dipped in this solution and sulphured to the proper color.

### Sequoia Gigantea.

Is it probable that the sequoia gigantea will live under cultivation to a mature age? It is a beautiful tree and I wish to plant it, but know of a tree at Pomona planted on a lawn which died when about twenty years old.—X. Los Angeles.

This query was referred to Mr. W. V. Eberly Manager of the California Nursery Co., Niles, Cal., because of the fact that on the gounds of that nursery is one of the largest trees of this variety which we have seen under cultivation. Mr. Eberly replies:

Replying to your favor of August 12th: We do not think anyone knows how long Sequoia gigantea will live, even in a cultivated state. We have one specimen on our grounds that is now 50 feet high and is about 25 years old. Each year it seems to look better and grow faster.

We judge that the trees that you say died at Pomona either got too much water or else their roots went down to hardpan or some unsuitable soil condition.

There is hardly any doubt in our minds that cultivated trees, if the soil and moisture conditions are right, will live to be as old as they do in their natural forests; at least can see no reason why they will not. There are a number of large trees around Niles. All of them look healthy and are growing larger every year.

### Belgian Hares.

How large should a Belgian pen be? What is the best way to build it? Where could I get thoroughbred stock?—A. S., Chico.

A pen for adult stock should not

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be smaller than 3x4 feet and about 2 or 2½ feet high and as much larger as space will permit for brood does.

The pen should be free from drafts and direct sun, and must be dry. We found the most satisfactory pens to be those built against a solid wall, the wall forming the back of the pen, the front and sides being of one inch mesh wire netting.

There should be a tight board floor and where the pens are built one above the other the floor should be of matched stuff to make it water tight.

Do not neglect a strip of board about 1x3 around the floor of pen forming a base board, otherwise the young leverets will manage to fall through the wire. The method of building hutches was gone into at some length in a former number of the Cultivator (page 42 of issue of January 14, 1909). I am unable to tell you where you can obtain thoroughbred stock, but would suggest to some of the readers of the Cultivator who have good stock for sale, that it "pays to advertise."—Bee Josephine O'Mealey.

### Gum On Fruit.

Many of the peaches on my small trees show drops of gum on the fruit. Some of the trees are entirely free from this affection. What is the cause, and has spraying with Bordeaux anything to do with it?—F. P., Porterville.

The presence of gum on the fruit is due to physical condition of the tree and spraying has nothing whatever to do with it. It is sometimes prevalent after heavy pruning, and sometimes comes without any apparent cause. Like splitting of pits and some other problems, it is yet to be solved.

### Gypsum.

An inquirer wishes to know the value of gypsum as an absorbent of odors, and as of general advantage in poultry houses. Also, does it make the droppings of more value as fertilizer?

Gypsum, or land-plaster, is considered one of the best of absorbents and deodorizers that can be used in the poultry house, and makes the droppings more valuable by absorbing and retaining the volatile matters which escape through the air by evaporation, etc. It should be used by sprinkling freely under the roots, and the droppings kept under shelter from rain as gathered, preferably in barrels and boxes, either under a shed, or covered well to protect from dampness, which will cause the valuable properties to escape to some extent.

## NOT PIONEERING.

We find the following item in the "California Cultivator" current number:

"The city of Vallejo is taking up with one of the first experiments of its kind, in this, that it will plant a large number of eucalyptus trees on 500 acres of waste land near the site of the municipal water works."

Guess again. San Bernardino's water department put out 10 acres of eucalyptus in May, 1908, which same averaged considerably higher than a man's head in May, 1909, a year from the planting, with many specimens reaching from 10 to 12 feet in height. Not only so, but 22 acres more are to be planted at another reservoir, since the first experiment has made such a magnificent showing. The Vallejo people seem to be going in on an extensive scale, if 500 acres are to be planted, but San Bernardino will have to lay claim to the first step in the way of utilizing waste land. Fifteen or 20 years hence, the wood will be no small item of income.—San Bernardino Sun.

## HOW TO GET GOVERNMENT LAND

The General Land Office at Washington does not issue maps showing the location of vacant public lands subject to entry; neither will any specific description of the land, water, climate or timber be given.

Persons who desire to take out homestead or desert land claims must themselves find and decide upon the lands. They should then write or go to the local land office of the district in which the lands are situated and obtain from the records diagrams of the vacant lands. Information as to whether or not a particular tract of surveyed land has been filed upon may be obtained upon inquiry. The register and receiver will give advice as to law and procedure, but are not officially cognizant of the character of unentered lands, and are not expected to give information regarding same; neither are they expected to furnish extended lists of lands subject to entry, except through plats and diagrams which they are authorized to make and sell as follows:

For a township diagram showing unentered lands only----------$1
For a township plat showing form of entries, names ofclaimants and character of entries----------$2
For a township plat showing form of entries, names of claimants, character of entry and number------$3
For a township plat showing form of entries, names of claimants, character of entry, number, and date of filing or entry, together with topography, etc. ----------$4

Such maps are open to inspection in all local land offices. Writer's applications for these maps should be accompanied by remittances of the proper amounts to the receiver of the office, and should state the number of the townships and ranges for which plats or diagrams are desired.

The United States Geological Survey issues atlas sheets which show United States township and section lines; located township and section corners; and township and section corners not found. Some stationers have these maps on sale at five cents a sheet.

When the intending settler has decided upon the region he desires, he is required both under the homestead and desert lands laws to inspect it in person. For those who desire further and fuller information than can be put into this brief space, application in person or through the mail to the local land office will secure two circulars, one containing suggestions to intending homesteaders and the other to those desiring to enter land under the desert land act. Land laws may be had by application to the General Land Office, Washington, D. C.—Ex.

## AVOIDING RUST.

Many housekeepers do not seem to be familiar with the fact that pins and needles are not likely to rust in a cushion filled with coffee grounds. The grounds have already served to make a beverage. They are merely poured from the pot, rinsed in cold water and dried in the sun.—Washington Times.

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HOME CANNING OUTFIT JUST LIKE factory canneries. As simple to operate as the open dishpan. When prices are low and fruit and vegetables are going to waste, save it all by canning and then you can hold for better prices. A book of instructions of how to can corn, peas, beans, etc., how to make and can all kinds fruits and jams, etc., goes with each outfit. Send your name so I can tell you all about it. M. HILTON SMITH, Alice, Texas.

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THE ARMOUR FERTILIZER WORKS, Los Angeles and Colton.

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SPECIAL—FOR SALE, HOLSTEIN bulls, two old enough for service and a number of yearlings. Also a few calves that are small enough to crate. Julianas, De Kols and all the strains for which this herd has been famous are represented. The only cows to hold World Records raised in the state were bred on this ranch. Same blood still represented largely in the herd. MINNEWAWA STOCK FARM, Fresno, Cal.

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The lamp as shown in cut burns 22 hours on 3 quarts of oil.

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You can pay any Salt Lake Route agent and have ticket furnished to Eastern Friends.

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**601 So. Spring St., Los Angeles**

about these low rates

**FROM the EAST VIA SALT LAKE ROUTE**


# Household Department

### I CANNOT SING THE OLD SONGS.

I cannot sing the old songs,
Though well I know the tune,
Familiar as a cradle song
With sleep-compelling croon;
Yet though I'm filled with music,
As choirs of summer birds,
"I cannot sing the old songs"—
I do not know the words.
I start on "Hail Columbia,"
And get to "heav'n-born band,"
And there I strike an upward grade,--
With neither steam nor sand;
"Star Spangled Banner" downs me
Right in my wildest screaming;
I start all right, but dumbly come,
To voiceless wreck at "streaming."

So, when I sing the old songs,
Don't murmur or complain
If "Li, diddy ah da, tum dum"
Should fill the sweetest strain.
I love "Tolly um dum di do."
And the "trilla la yeep da,' of birds,
But "I cannot sing the old songs,"—
I do not know the words.

—Rev. Robert J. Burdette.

### ROBINSON'S DETECTIVE WORK.

I WAS telephoning Randall about a business detail that had popped into my head just as I was leaving the theater, when the thing happened.

"I am sure that number is not busy," I assured the operator, and there followed the usual provoking silence. "Plague take it," I muttered, when I heard something like a moan through the 'phone.

"My God, they'll kill me!"

I almost dropped the receiver in surprise. The words, uttered in a low tone evidently a woman's, had the effect of coming from blank space. The shock set me to quivering.

"They'll be back in a moment. They'll have no mercy Help me, for God's sake."

The words came jerkily over the 'phone, cut into sentences, and were spoken in a repressed fashion as if the speaker were trying to conceal them for someone. But they began to grow louder and more charged with emotion.

"They can't be gone much longer. I think I hear them on the stairs now. Good God, they're coming! Help me! help me! They're—"

It was Randall's blatant voice that broke in. "Hello," he said. "Hello. Well?"

"Hang up your receiver," "I shouted, "This is me, Robinson. Hurry, you idiot. Something terrible's happened."

It took an endless time to make him understand. The moment he did cut off I began violently to work the receiver-holder of my phone in an effort to attract the operator's attention. There was a snap somewhere. The 'phone suddenly became absolutely dead. It took me some time to realize this; then I jammed it down on the the desk and ran to the door.

As I opened it, a cab was creeping by. Hailing the driver, I jumped in. "Go like the devil," I said, and gave him the address of the west exchange with which I knew my 'phone was connected.

I fairly gnawed my nails to the quick as the driver whipped his horse along at top speed. The words were ringing in my ears: "Help me! Help me!" What had happened?

Around the corner we whirled and the lights of the exchange flashed into sight. "Walt," I shouted to the driver, as I leaped out and dashed up the stairs. A girl pointed out to me the manager.

"The forces have just been changed," he said. "The operator on your line has gone home."

"But can't anyone else tell me what 'phone I was connected with?" I exclaimed.

He said they couldn't.

Then another resort came into my mind. "Where does the girl live? I'll go to her home."

He asked each separate girl and none knew. I was growing desperate when the boy who did odd jobs said he thought she lived with her aunt on Queen and Oak streets in the Millsworth suburb. The next instant I was in the cab, driving like fury. The Millsworth suburb was six miles away. It was three o'clock when we reached there. The girl and her aunt had moved back within the city fully ten miles from where we were. As soon as possible I changed cabs, for the horse I had been using was utterly done up. "Drive for all you are worth," I said to my new cabby.

The words I had heard over the 'phone kept running through my brain: "Help me, help me!"

There was a growing light in the east when we stopped before a small frame house. Aching in every joint from my hard drive, I ran up the steps. Bur-er, went the bell. There was a wait, the patter of feet, then the gas in the hall was lighted.

I shouted who I was and whom I wanted to see.

The door cracked and a head done up in curl-papers appeared. "I'm her. What's the trouble?"

I told her, clenching my hands, knitting my brows, filling my tones with dramatic emphasis the while. She started, slowly her eyes opened, then her mouth expanded into a smile. For a moment I stood unbelieving.

"But, do you understand?" I cried. "This is a life and death matter. Whom was I connected with?"

"Me."

"What?"

She extended a yellow-back volume through the door. "I had got to the third chapter, just where the princess had been thrown into the dungeon, when I had to go on duty; so I took the book along with me, and was reading a bit out to Mamie Moore when you asked for a number. Listen: 'My God, they'll kill me! They'll be back in a moment. They'll have no mercy. Help me for God's sake. They can't be gone much longer now. Good God, they're coming! Help me, help me! They're—' The boss came along about that time."

I turned brusquely away. "Good night," I said.

She giggled.—Universal Magazine.

### WHY SHE DECLINED.

"Really," said the stylish lady, enthusiastically, to her friend, "it is quite worth while going to the Zoo, if only to see the wonderful display of rhododendrons."

"Is it?" replied her friend, languidly; "I like to look at the great big clumsy beasts, too, but it always smells so unpleasantly round the cages."—London News.

## THE HOME LAUNDRY.

This subject, like farming, is one about which everyone knows—or thinks he knows. That so many of us are, then, wearing grimy linen, must be ascribed to the perversity of Colorado sunshine, Colorado water, and the numberless "ines," powders, and Aunt Hannah soaps that flood the market. That one day in seven has come to be synonymous with steamy houses, cold dinners, and ill-temper, again, must be that we are visited by the perversity of fate, and so we try to become reconciled to this ill to which we are heirs.

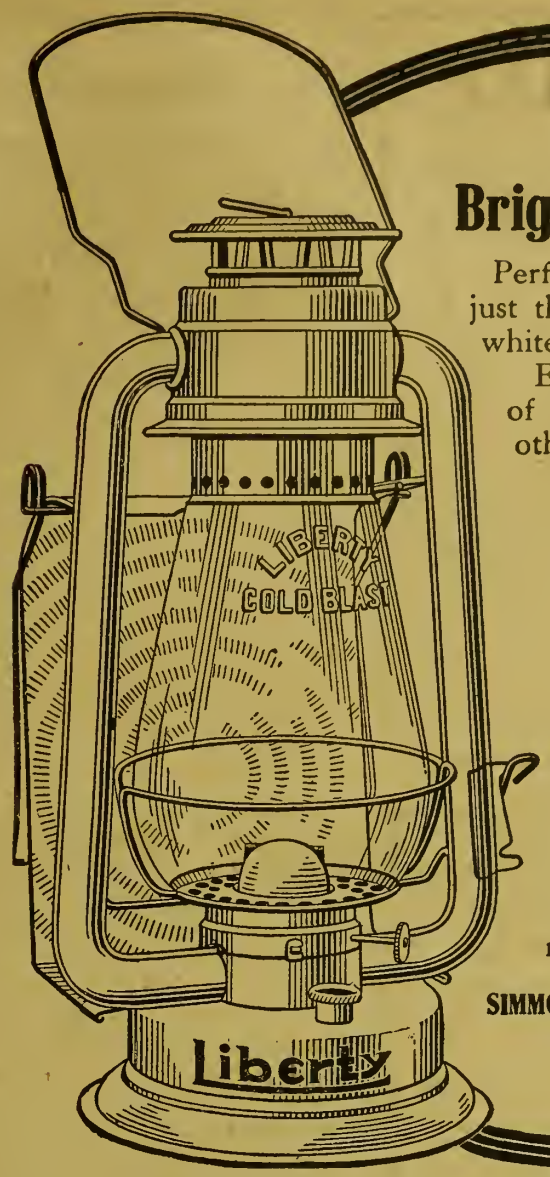
There must be a "screw loose," and until the time comes when clothes shall be laundered at some public establishment, with no greater expense in the aggregate than in the private kitchen or basement, it may be well to seek out the difficulty and then a partial remedy, at least, for the conditions that prevail.

The first point of attack is the laundry room, if such a room has been set aside in the basement, or at the rear of the house. Into this it has not appeared to be worth the while to carry wholesome conditions and comfortable environment. We dream over Turkish corners, dens, and mission finish for the front part of the house, giving no thought to plans for this room in which someone must spend in routine work of the household, no less than one day in each week—fifty-two days in the year. In the matter of the laundry room and its equipment, the average house is of the type of Queen Anne front and Mary Ann back. This criticism is not in the way of a plea for architectural beauty. The laundry room should be humble, but let it at least comply with these essentials—provision for ventilation, abundant light, and opportunity for maintaining cleanliness. In the house where the kitchen serves the laundry purpose, the emphasis is the same.

The next consideration is that of equipment. In this some things may be regarded as accessories; others as "must haves." As a rule, no part of house furnishing is so limited, and even destitute. A quotation from a laundress who went out to service and also "took in work," gives a view of the common state of affairs. In apologizing for a delinquency, she said, "My hands were so sore I just couldn't get all the ironing done. I went to Mr. Brown's Tuesday, to wash, and the wash board was so bad I cut my hands all up. You see, Mr. Brown is the president of the First National bank. They are rich folks and have all their work done, so they don't know what one needs to work with."

There are excellent labor-saving devices, but they do not dispense with brains. If the device is a washing machine, understand what, at best, should be expected of it. Keeping in mind that washing is forcing water through clothes, and that soap and heat, each at a proper time facilitate the cleansing action of the water, select, then, the machine that best does the work. Several may accomplish this equally well. Know this. Know that these devices, which are often regarded merely as accessories, will prove no less advantageous than the separator in the dairy, and that greater wear and tear of clothes is of less consequence than the saving in time and energy Know that sanitary and comfortable floor covering, that cleanly and attractive walls, that proper tools for work, are not prohibitive in cost. Know the degree and character of the hardness of water, and how to remedy it. Know the relative value of cleaning agents—soaps and washing powders, the value and worthlessness of bluings. All such information is available to the earnest inquirer.

With this accurate knowledge comes skill, and with skill, greater joy in work. It is largely a matter of desire and intelligence that is to determine whether or not the "wash day" of today and tradition shall remain.—Inga M. K. Allison, Colorado Agricultural College.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**St. Louis and New York**
**U. S. A.**


## RECIPES.

Mix thoroughly in one and one-half quarts of flour, one tablespoon of butter and one tablespoon of lard. Scald one pint of milk and when it has become cool, add one-half teaspoon of salt, a scant cup of sugar, and a dissolved yeast cake. Place the flour in a deep mixing bowl, make a well in it and into this pour the yeast and let it stand for several hours until very light. Mix all together, knead one-half hour and let rise. Roll out in a long strip with the rolling pin, cut in small pieces and rub with butter, put in pan, let rise the second time, the bake.

**Bread Tarts.**

Cut white bread into thin slices, then in rounds with a biscuit cutter. With a pastry brush the surface is moistened lightly with milk, spread with any kind of jam or marmalade and lay two together. A little butter is heated in a heavy frying pan and the tarts are fried to a delicate brown on each side, sprinkled with powdered sugar and served hot.

**Cod Fish Cones.**

Pick enought salt codfish into small pieces to make two cups. Soak over night, drain and bring to the boiling point. Make a white sauce by melting two tablespoons of butter and blending it with two tablespoons of flour and one cup of hot milk, cooking to a thick cream. Have ready one pint of hot, seasoned mashed potatoes. Beat the fish into sauce, add the potatoes, mix thoroughly and form into small cones. Place them on a buttered baking sheet, brush with melted butter, sprinkle with bread crumbs and brown in the oven.

**Rice as a Vegetable.**

The correct way to cook rice is to have each kernel dry and separate from the rest; this is done by boiling a cup in five or six cups of water. After washing the rice thoroughly pour it into the boiling water, salt to taste. Let it boil twenty minutes. If necessary pour more boiling water into the pan, but do not stir with a spoon. Mash a kernel of rice between your fingers, and if soft, pour all into a collander, allowing it to drain into a pan. Serve as soon as drained. It is often eaten with a curried meat stew. The rice water may be used for soup.


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For the half year ending June 30, 1909, INTEREST was paid on all deposits at the rate of

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**THE OLDEST SAVINGS BANK IN CALIFORNIA**


## THE FIRELESS COOKER.

Our modern civilization has evolved many labor-saving devices for women, which in comparison to the old-fashioned methods render housekeeping extremely easy. Hence the country woman has reason to welcome the fireless cooker and she should not allow prejudice to keep her from fully investigating its claims. The name fireless cooker is somewhat misleading; heat retainer would have been better, as the principle upon which it cooks is that the heat is retained by insulation after the food has been brought to a boil on the flame or coal stove. This principle has long been known and used in Europe and its practical adaptation to the needs of the American housekeeper is destined to revolutionize the burden of cooking three meals a day.

By means of the fireless cooker the farmer's wife can start her vegetables, meat and soup to boiling while she is cooking breakfast and have them snugly packed away in the cooker half an hour later to be taken out "piping hot and done to a turn" for dinner In the meantime she has a cool kitchen in which to wash up her breakfast dishes, churn and do the many other things that fall to the lot of a woman in the country.

One farmer's wife, writing of the fireless cooker, says: "It is the greatest help to women of the age and the greatest saver of fuel and labor. My dinner is all in the cooker now and it has been for three hours. My kitchen is nice and cool and I have taken a good rest. No running to see about fires, just leave it alone and when wanted all will be done 'to a turn.' "—An Expert Cook.

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Sept. 1, 1909.

### Butter.

The warm weather has diverted such a large proportion of cream to the ice cream trade that butter is becoming scarce and price will doubtless make early advance, lower grades are higher than last week.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

| | |
|---|---|
| Creamery per roll | 60@62½ |
| Dairy per roll | 30 |
| Eastern creamery per lb | 30 |
| Cooking | 25 |
| Ladles | 26 |

### Cheese.

| | |
|---|---|
| Southern California Anchor | 20 |
| Northern fresh | 17½ |
| Anchor Young America | 21 |
| Domestic Swiss | 21@23 |
| Imported Swiss | 30 |

### Eggs and Poultry.

Eggs are in lightest receipt of the entire year. No material advance is noted, but a firm condition prevails.

Paying price f. o. b. L. A. are:

| | |
|---|---|
| Eggs | 34@37 |
| Case count buying price | 31 |
| Eastern | 30 |
| Storage | 28 |

Dealers pay for live poultry f. o. b. L. A.:

| | |
|---|---|
| Hens per pound 3½ up | 15 |
| Stags and old roosters | 7 |
| Fryers 2 to 2¾ lbs | 15 |
| Broilers 1¼ to 1¾ lbs | 17 |
| Roasters 3 lbs and up | 16 |
| Turkeys | 18@22 |
| Geese | 12 |
| Ducks | 12@13 |
| Squabs | 1.25@1.75 |

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

| | |
|---|---|
| Hogs from 175 to 200 pounds | 7½ |
| Prime steers | 4@4¼ |
| Heifers | 3½@3¾ |
| Calves per pound | 5 |
| Sheep ewes per head | 3.75@4.00 |
| Lambs per head | 3.25@3.50 |
| Wethers | 4.50@5.00 |

### Potatoes.

Wholesale prices are:

| | |
|---|---|
| New sweets per ctl | 2.00@2.50 |
| Early Rose local | 1.50 |
| Burbank local | 1.40@1.50 |
| Highlands | 1.25@1.35 |

### Onions.

Wholesale quotations:

| | |
|---|---|
| Silverskins, local | 75@1.00 |
| Northern Yellow Danvers | 1.25 |
| Australian Browns per sack | 1.25 |

### Vegetables.

| | |
|---|---|
| Artichokes locals | 60@75 |
| Asparagus | 4@6 |
| Beets per sk | 90 |
| Beans string | 2½ |
| Brussels sprouts per lb. | 10 |
| Bell peppers | 4@5 |
| Cabbages per sack | 75 |
| Celery per doz | 60@90 |
| Chili per lb | 25 |
| Chili dried | 9@10 |
| Cucumbers per box | 35 |
| Cauliflower per doz | 1.35 |
| Carrots per sk | 90 |
| Corn per box | 40@50 |
| Egg plant per lb | 4½ |
| Green onions per doz bunches | 15 |
| Hubbard squash per lb | 2½ |
| Summer squash per box | 30 |
| Lettuce choice | 60 |
| Oyster plant | 50 |
| Okra per lb | 5 |
| Peas per lb | 2½ |
| Parsley doz | 25 |
| Parsnips | 40 |
| Radishes per doz | 15@20 |
| Spinach per doz. | 15@20 |
| Turnips sk | 90 |
| Tomatoes lugs | 35@50 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 1.75 |
| Grapefruit | 1.75@3.00 |
| Lemons | 1.25@3.90 |

### Fresh Fruits.

Wholesale prices on the market are:

| | |
|---|---|
| Apricots per lug | 35@50 |
| Alexanders | 1.00@1.75 |
| Bellefleurs | 1.25@1.35 |
| Gravensteins | 1.25@1.75 |
| Casabas per crate | 50@1.00 |
| Cantaloupes Jumbos | 1.35 |
| Figs | 1.00@1.25 |
| Grapes lug box | 75@85 |
| Loganberries | 8 |
| Nectarines | 75@1.00 |
| Peaches box | 75@85 |
| Pears Bartletts box | 1.40 |
| Plums | 50@90 |
| Prunes | 60@75 |
| Raspberries | 7@8 |
| Blackberries | 5@6 |
| Strawberries | 4@5 |
| Watermelons per lb. | ¾@1 |

### Dried Fruits.

Wholesale prices are:

| | |
|---|---|
| Apricots | 19 |
| Evap apples fy per lb | 10@11 |
| Figs loose | 5 |
| Peaches | 6 |
| Pears | 8 |
| Plums pitted | 8 |
| Nectarines | 7½ |
| Prunes | 3@6½ |

RAISINS—Muscatels, 2-crown, loose, 50-lb. boxes, lb., 3½c; do., 3-crown, 4c; do., 4-crown 5c; sultanas, bleached, lb., 9c; do., unbleached, 3½@4c; new seeded raisins, 16-oz. packages, 6c; do., 12-oz. packages, 5c.

### Beans Dried.

Wholesale prices are:

| | |
|---|---|
| Pink No. 1 | 3.50@3.75 |
| Limas per ctl | 4.75 |
| Black eyes | 3.50 |
| Lady Washington | 5.25 |
| Small White | 6.50@6.75 |
| Garvanzas | 4.00@4.50 |

### Nuts.

| | |
|---|---|
| Almonds IXL per lb | 16@18 |
| Pecans polished | 15@16 |
| Peanuts California | 5 |
| Peanuts Eastern | 7 |
| Walnuts No. 1 | 12@13 |
| Walnuts No. 2 | 9@10 |
| Walnuts grafted | 15 |

### Honey.

Wholesale quotations:

| | |
|---|---|
| Extracted water white | 7½ |
| Extracted Light Amber | 5½@6 |
| Comb Water White | 15 |
| Comb, white | 14 |
| Beeswax | 25 |
| Seed Rye | 2.00 |

### Hay.

| | |
|---|---|
| New Barley hay | 8.50@14.00 |
| Alfalfa, local | 11.00@12.50 |
| New alfalfa Imperial | 10.50@11.50 |
| Northern | 10.50@12.00 |
| Wheat hay | 10.00@13.50 |
| Tame oat | 10.00@15.50 |

### Grain.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Wheat new per ctl | 1.95@2.00 |
| Kaffir corn | 2.00 |
| Corn Eastern bulk | 1.75 |
| Egyptian corn | 1.80 |
| White oats | 2.25 |
| Seed Rye | 2.00 |

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Cracked corn | 1.80 |
| Shorts | 1.85 |
| Bran | 1.60 |
| Cocoanut cake | 1.35 |
| Cocoanut meal | 1.85 |
| Cottonseed meal | 1.25 |
| Oil cake meal | 2.00 |
| Feed meal | 1.85 |
| Rolled Barley | 1.50 |

## San Francisco Markets

SAN FRANCISCO, Aug. 31, 1909.

### Butter.

Butter declined last week to 31, then on Monday advanced a half cent where it now remains. Some sales were made yesterday at 32, but the general range is about as quoted below:

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

| | |
|---|---|
| California extras per lb. | 31½ |
| California firsts | 29 |
| California seconds | 27½ |
| Packing | 24½ |

### Cheese.

| | |
|---|---|
| California flats | 14½@17 |
| Cal Young America fy | 15@16½ |
| Young American Oregon fy | 16½ |

### Eggs and Poultry.

Eggs took a sharp decline after last week's quotations, dropping six cents. Recovery began on the 27th, and they now stand at 38 for extras with firm market.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

| | |
|---|---|
| Fresh ranch | 24@38 |
| Hens per doz. | 4.50@9.00 |
| Roosters | 4.00@9.00 |
| Fryers per doz | 5.00@5.50 |
| Broilers | 3.00@4.00 |
| Geese per pair | 1.50@2.00 |
| Ducks | 4.00@8.00 |
| Pigeons young | 1.00@2.25 |

### Live Stock.

San Francisco prices gross weight:

| | |
|---|---|
| Steers | 2¾@4¼ |
| Cows and heifers | 2@3¼ |
| Hogs | 4½@7½ |
| Calves per lb | 4@5¼ |
| Milk lambs | 5¼ |
| Wethers No. 1 | 4¼ |
| Ewes No. 1 | 3¾ |

### Potatoes.

Wholesale market quotations:

| | |
|---|---|
| New crop | 70@80 |
| Salinas | 1.35@1.50 |
| Sweets crates per lb. | 1.60 |
| Sweets sks | 1@1½ |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Asparagus per box | 50@1.00 |
| Bell peppers per box | 35@50 |
| Brussels sprouts per lb | 3@5 |
| Cabbage per box | 2.00@2.25 |
| Cauliflower doz. | 75@1.00 |
| Carrots per sk | 65@75 |
| Cucumbers per box | 25@35 |
| Chili peppers per box | 25@35 |
| Corn per sk | 1.00@1.50 |
| Egg plant per box | 65@75 |
| Green peas per lb. | 2½@3 |
| Okra | 65@75 |
| Onions green per box | 50@60 |
| Rhubarb per box for bay | 1.25@1.50 |
| Squash per box | 25@40 |
| String beans | 1½@2½ |
| Tomatoes | 50@1.00 |
| Tomatoes | 25@50 |
| Wax beans | 2@3 |
| Lima Beans | 3@4 |

### Onions.

| | |
|---|---|
| Yellow | 60@70 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 1.50@3.00 |
| Grapefruit | 1.00@3.25 |
| Lemons | 1.25@4.00 |
| Limes | 5.50@6.00 |

### Fresh Fruits.

| | |
|---|---|
| Apricots per lb | 2@3 |
| Apples common | 50@85 |
| Gravensteins | 1.25@1.50 |
| Bellflowers | 1.00 |
| Crab apples | 50@75 |
| Figs blk box | 75@90 |
| Grapes seedless | 40@50 |
| Tokays | 50@65 |
| Malagas | 50@65 |
| Rose of Peru | 50@60 |
| Muscats | 40@65 |
| Logans per chest | 3.00@4.00 |
| Nectarines crate white | 40@50 |
| Nectarines red | 75@85 |
| Cherry plums per box | 25@35 |
| Peaches per lug box | 50@75 |
| Peaches per lug box clings | 50@75 |
| Plums boxes | 40@65 |
| Plums Tragedy crates | 60@75 |
| Pears Bartletts | 40@1.50 |
| Cantaloupes | 75@1.00 |
| Nutmegs per box | 35@50 |
| Muskmelons | 1.00@1.50 |
| Pears box | 60@1.50 |
| Quinces box | 75@1.00 |
| Blackberries per chest | 1.50@3.00 |
| Huckleberries per lb | 12½@13 |
| Raspberries per chest | 4.00@7.00 |
| Longworth per chest | 3.00@4.00 |
| Malindas per chest | 2.00@5.00 |
| Watermelons per doz | 1.00@3.00 |

### Dried Fruits.

| | |
|---|---|
| Prunes 4-size basis | 2½ |
| Santa Clara | 2¾ |

½ cent premium for larger sizes

| | |
|---|---|
| Apricots per lb. | 10@13 |
| Peaches—Choice | 5¼; Fancy 8½ |
| Apples evap | 5@9½ |
| Pears | 6@9 |
| Figs | 2½@4 |
| Nectarines | 5@6 |
| Plums | 7@8 |

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do, No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12. 3¾c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached. 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

| | |
|---|---|
| Walnuts soft shell | 12½ |
| Hard shell | 6@8½ |
| Ne Plus Ultra | 12¾@13¼ |
| Almonds '09 N P U | 12¾@13¼ |
| Almonds '09 nonp | 14½ |
| Almonds '09 I X L | 13½@14 |
| Pecans | 15@17 |
| Chestnuts | 2@10 |
| Peanuts | 5@6 |
| Pine nuts | 22½@25 |

### Beans Dried.

| | |
|---|---|
| Limas | 4.10@4.25 |
| Pink | 2.95@3.00 |
| Small white | 7.00@7.25 |
| Large white | 4.75@5.00 |
| Black eyes | 3.40@3.60 |
| Red kidneys | 3.50@3.75 |
| Garvanzas | 3.00@3.50 |
| Bayo | 5.00@5.25 |
| Horse Beans | 1.90@2.10 |

### Hops.

| | |
|---|---|
| Hops 1909 crop | 18@20 |
| Hops 1908 crop | 12@15 |
| Old | 3@8 |

### Honey.

| | |
|---|---|
| White comb | 14@15 |
| Light Amber | 10@12 |
| Extracted W W | 7½ |
| Extracted light amber | 6½@7 |
| Beeswax per lb | 25@29 |

### Hay.

During the week just passed we have received 4500 tons of hay on the San Francisco market. The purchasing of hay in the country of late has been restricted mostly to choice types only. Choice lots of hay find a sale at quotations. Fair to medium and also the poorer grades, are dull and neglected, and any purchases that are being made in the country of these medium grades of hay, must be done on a very much reduced basis.

Alfalfa hay is beginning to arrive here now freely. The demand is quite active, but the tendency of the market is decidedly easy. Large quantities of alfalfa are being offered freely in various sections, but same cannot readily be handled on satisfactory results at this time.

Straw has arrived more freely and the market on this article is a little lower.

This week's quotations are:

| | |
|---|---|
| Choice wheat hay | 17.50@18.50 |
| No 1 wheat or wheat & oat | 16.00@17.00 |
| No 2 wheat or wheat & oat | 13.50@15.00 |
| Choice tame oat | 16.00@17.00 |
| Other tame oat | 12.00@14.00 |
| New crop wild | 11.00@14.00 |
| Stock hay | 8.50@9.00 |
| Alfalfa | 10.00@13.50 |
| Straw | 55@65 |

### Grain.

| | |
|---|---|
| Wheat No. 1 | 1.70@1.75 |
| Barley | 1.30@1.38¾ |
| Oats white | 1.60@1.62½ |
| Oats gray | 2.00@2.10 |
| Rye new crop | 1.70@1.75 |
| Corn Egyptain | 1.60@1.65 |
| Cal sm round | 1.80@1.82½ |
| Alfalfa seed, Cal. | 16@18 |
| Mustard brown | 3¾@4½ |
| Millet | 2½@3 |
| Flaxseed | 4 |
| Broom corn seed per ton | 23.50 |

### Feed Stuff.

| | |
|---|---|
| Bran per ton | 29.00@30.00 |
| Feed cornmeal per ton | 39.00@40.00 |
| Cracked corn per ton | 40.00@41.00 |
| Rolled barley per ton | 31.00@32.00 |
| Rolled oats per ton | 40.00@41.00 |
| Oil cake per ton | 38.50@40.00 |
| Cocoanut cake per ton | 25.00 |
| Middlings | 36.00@37.50 |
| Mixed feed per ton | 25.00@30.00 |
| Shorts | 31.50@33.00 |

## Deciduous Market

SACRAMENTO, Aug. 28.

The California Fruit Distributors announced the fruit sales in Eastern markets today in carload consignments as follows: New York 60 cars, Distributors 37; Pittsburg 6, Distributors 3; Chicago 36; Distributors 16; Boston 13, Distributors 10; St. Louis 4; Distributors 4.

The average prices received in some of the Eastern markets today were as follows:

New York; Malagas, 95c; Elbertas, 70c; orange clings, 90c; seedless, 70c; Muir, 60c; Lovells, 60c; Tokays, $2; silvers, $1.15; eggs, $1.12; Bartletts, $3.15; Gros, $1.40.

Chicago; Bartletts, ripe, $2.50; green, $3.15; Malagas, $1; peaches, ripe, 35c to 80c.

Philadelphia; Lovells, 55c Malagas, 90c; Bartletts, 2.80; Tokays, $1.25.

Boston: Bartletts, $3.40; Malagas, $1.20; Gros, $1.70; Hungarians, $1.70; Germans, $1.20; Crawfords, $1; Lovells, 80s; Muir, 87c; Susquehanna, 87c; orange cling, 65c.

Salway peaches are starting now and by next week the shipments of this fruit will be well under way.

Tokays are moving Eastward quite rapidly, but the heaviest shipments will be next week when the grapes will be ready for large consignments.—Sacramento Bee.

## Citrus Market

LOS ANGELES, Sept, 1, 1909.

Valencias have advanced during the last week about ten cents a box. They have not as yet, however, come against the eastern supply of grapes and peaches which will be placed on the market during the next ten days. What effect this will have is not definitely known. The promise, however, is for fairly good returns for the remainder of the season.

The lemon market is in a somewhat easier condition than last week. The weather has materially modified and notwithstanding shipments have increased somewhat, there seems to be less of a desire to purchase. It cannot be said that there is any decline in prices, and in fact there may not be, though shrewd observers anticipate a slight lowering during the month of September from present indications. But even if this should be the case, if the precedent of former years is followed, October will see a recovery.

**Shipments.**

Total shipments to date since Nov.

1, 1908; 35,985 cars of citrus fruit. Of these 30,154 were oranges, 5,831 lemons.

NEW YORK, Aug. 30.—Twelve cars sold. Market strong and active, prices higher; weather cool, favorable.

| VALENCIAS— | Average. |
|---|---|
| Isis | 2.20 |
| Success, Or Speich & C. | 1.75 |
| Golden Flower Red Go Assn | 3.25 |
| Lincoln H Ex | 2.80 |
| Orchard Or National O Co | 3.00 |
| Standard National O Co | 2.70 |
| Lone Palm M & Willard | 2.40 |
| Beach McGowan & W | 1.90 |
| Old Mission Chapman | 4.75 |
| Golden Eagle Chapman | 3.00 |
| Lade Rowena | 2.80 |
| Stag AGG Ex | 4.20 |
| Pointer, AGG Ex | 3.10 |
| Hunter AGG Ex | 2.30 |
| Red Mtn Riv Ex | 2.25 |
| Riverside Riv Ex | 1.65 |
| Iris DM Ex | 3.70 |
| Violet DM Ex | 2.95 |
| Alhambra ST Ex | 2.55 |
| Don Quixote, ST Ex | 2.55 |
| Titus Ranch San Marino | 3.10 |
| El Toreador San Marino | 2.35 |
| Titus Ranch San Marino | 2.35 |
| El Toreador San Marino | 2.35 |
| GRAPEFRUIT— | |
| Stag | 1.90 |
| HALVES— | |
| Orchard | 1.35 |
| Isis | 1.40 |
| Isis | 2.40 |
| Mtn Lion | 2.00 |

PHILADELPHIA, Aug. 30—Three cars Valencias sold.

| VALENCIAS— | Average |
|---|---|
| Pointer ACG Ex C Oak | 2.90 |
| Coyote OK Ex | 2.20 |
| Hunter ACGC Oak | 2.65 |
| Bunker Hill, CCU | 2.20 |

CLEVELAND, Aug. 30—Two cars valencias, 1 car lemons sold. The market is unchanged on valencias, higher on lemons.

| VALENCIAS— | Average |
|---|---|
| Planet SS Orange | 2.15 |
| Pico Whittier | 2.15 |
| Lemons— | |
| Whittier Whittier | 4.55 |
| Pico Whittier | 3.50 |

ST. LOUIS, Aug 30.—Cool. Prices low on lemon accounts quality. Steady on valencias, 7 cars sold.

| LEMONS— | Average |
|---|---|
| Plain Ends Escondido FGA | 1.30 |
| Pet SA Ex | 3.30 |
| Duck SA Ex | 2.00 |
| Owl OK Ex | 1.05 |
| Stk Label | 1.15 |
| Foxaway, Escondido FGA | 2.05 |
| Greyhound SA Ex | 2.45 |
| Blue Jay OK Ex | 1.20 |
| Choice | 2.25 |
| VALENCIAS— | |
| Cougar Covina Ex | 2.35 |
| Searchlight SS Orange | 2.25 |

CINCINNATI, Aug. 30—Warm. Market steady. 1 car oranges, 2 cars lemons sold.

| LEMONS— | Average |
|---|---|
| Pet SA Ex | 3.05 |
| Duck SA Ex | 1.80 |
| Greyhound SA Ex | 2.30 |
| Cry Baby, Flagler F Co | 2.15 |
| VALENCIAS— | |
| Mtn Crest SA Ex | 1.85 |

BOSTON, Aug 30.—Seven cars sold Weather favorable. Market strong on valencias, unchanged on lemons.

| VALENCIAS— | Average |
|---|---|
| Don Quixote E Alhambra | 2.65 |
| Security Nordoff | 2.80 |
| Standard Rossmoyne | 2.65 |
| Flamingo CCU | 2.75 |
| El Toreador San Marino | 2.40 |
| Mtn Side | 2.20 |
| Quality Nordoff | 3.25 |
| Extra Choice Rossmoyne | 3.05 |
| Titus Ranch San Marino | 2.95 |
| Florecia Riley | 2.70 |
| Dixie CCU | 2.20 |
| LEMONS— | |
| Pet SA Ex | 2.90 |
| Greyhound, SA Ex | 1.65 |

PITTSBURG, Aug 30—Five cars sold. Market easier on valencias, steady on lemons. Cool.

| VALENCIAS— | Average |
|---|---|
| Jasmine DM Duarte | 2.55 |
| Standard Rossmoyne | 1.80 |
| Sunset Orange | 1.95 |
| Ex Sh Or Rosmoyne | 2.10 |
| LEMONS— | |
| Corona Beauty Corona | 1.70 |
| Grove Corona | 1.70 |

NEW YORK, Aug 30.—Five Cars oranges sold. The market is steady. Weather cloudy and threatening.

| VALENCIAS— | Average |
|---|---|
| Old Mission Chapman | 4.60 |
| Golden Eagle Chapman | 2.85 |
| Titus Ranch San Marino GPA | 2.75 |
| El Toreador San Marino GPA | 2.25 |
| La Mesa Riverside Ex Riverside | 2.90 |
| Golden Rule Riverside Ex Riv. | 3.45 |
| Blue Globe Riverside Ex Riverside | 3.20 |
| Red Shield ACG Exchange | 2.65 |
| Green Crown, AGG Exchange | 2.30 |
| MEDITERRANEAN SWEETS— | |
| Ocean Speich & Co | 1.65 |
| Success Speich & Co | 1.35 |
| GRAPEFRUIT— | |
| Isis (½s) | 1.05 |
| Mountin Lion (½s) | .70 |
| Blue Globe (½s) | 1.45 |

BOSTON, Aug 26—Four cars sold. Weather hot. Market is strong on Valencias, weak on lemons.

| VALENCIAS— | Average |
|---|---|
| Whittier ST Ex Whittier | 3.00 |
| Pointer ACG Ex Azusa | 3.10 |
| Stag ACG Ex Azusa | 2.75 |
| Stag ACG Exchange | 3.95 |
| Orchard National Orange Co | 3.20 |

NEW YORK, Aug. 31.—Seven cars oranges sold. The market is very strong and active, prices advancing. Weather cool, cloudy.

| VALENCIAS— | Ave. |
|---|---|
| Old Mission fy Chapman | 4.75 |
| Old Mission, ch Chapman | 4.15 |
| Golden Eagle, sd Chapman | 3.30 |
| Titus Ranch fy San Marino, G P A | 2.95 |
| El Toreador sd San Marino G P A | 2.35 |
| Iris, D. M. Ex. | 3.50 |
| Violet, D M. Ex. | 3.10 |
| Carmencita, S. T. Ex. | 3.25 |
| Quail, O. K. Ex. | 3.05 |
| Blue, C. | 3.30 |
| Gold Finch, S. S. Ex. | 2.55 |
| El Modena, S. S. Ex. | 2.45 |

BOSTON, Aug. 31.—Four cars sold. Weather favorable. Market is very strong.

| VALENCIAS— | Ave |
|---|---|
| Planet, S. S. Orange | 2.75 |
| Rey, S. T. Fernando | 3.20 |
| A One, Xc Or. E. Peycke Co. | 2.95 |
| Quail, O. K. Ex. | 3.05 |
| Tunnel, S. T. Fernando | 2.85 |
| Climax, Ch. Or. E. Peycke Co. | 2.75 |

## WHAT WE EAT.

The Hollander eats decayed sharks, but turns with disgust from bread and butter.

The Chinese are fond of stewed dog, but consider beef unhealthy.

The Turk deems dried grasshoppers a delicacy, but an oyster fills him with abhorrence.

The English eat periwinkles, a kind of sea snail, but will have none of the French escargot—a land snail fattened on vine leaves and strawberries.

The West Indian native adores a supper of baked snake and palm worms fried in their own fat, but the very thought of stewed rabbit makes him shudder.

The African bushman eats caterpillars, but scorns limburger cheese.

Savages eat all eggs, barring none. They eat lizards' eggs, alligator's eggs, turtles' eggs, ants' eggs, snakes' eggs. But savages consider crab meat unholy.

## ALMOST AS GOOD.

Little Ikey came up to his father with a very solemn face.

"Is it true, father," he asked, "that marriage is a failure?"

His father surveyed him thoughtfully for a moment.

"Well, Ikey," he finally replied, "if you get a rich wife it's almost as good as a failure."—Lippincott's.

# Business Notes

### GRIT.

The success of Mr. George H. Croley is due to a combination of three qualities—pluck, energy and courage.

At the time of the San Francisco fire Mr. Croley was conducting a large poultry food business. Being in line of the flames his place was reduced to ashes and he was forced to begin anew upon the foundation of unlimited credit and a reputation for fair dealing.

Starting in a small way, almost before the ashes had cooled, he has built up a larger business than before the disaster. The main office salesroom and yards at 631-637 Brannan Street occupy over 10,000 square feet and an adjoining warehouse contains an additional 11,000 feet.

Mr. Croley employs sixtxeen people and delivers on an average of a carload of supplies a day to his out-of-town customers, besides having an extensive city trade. A specialty with Mr. Croley is ground oyster shells and his machines are capable of producing a carload every day and a half. At the time of our visit there were eight carloads of charcoal on the road and ninety-five tons of grits in the warehouse.

A special feature of the new establishment is a complete laboratory wherein are determined the food values of various commodities. Mr. Croley is the northern California agent for the famous Lee preparatons and coast agent for the Sturtevant Company's line of Columbia veterinary and poultry remedies.

A new and complete catalogue is about to be issued and those desiring a copy should send in their names at once and the book will be forwarded as soon as it is is off the press.

### A BEAUTIFUL CATALOGUE.

If anyone contemplates the installation of a pumping plant in the near future, it will be most profitable to write to the A. T. Ames Manufacturing Co., at Niles, California for their Catalogue Number 24. This catalogue is full of information for the pump man, and accompanying it is a blank form of specifications and questions which may be filled out to get further information from competent engineers. The catahas 64 large pages and is profusely illustrated. It also has a number of tables showing capacity of cylinders, capacity of tanks, and other information of value to the irrigator.

In the introduction to the book we note: "With our long experience in building pumps, we are in a position to assist our customers in selecting the pump best adapted to any given service. Our shops at Niles are large and well equipped; our engineering department is prepared to furnish plans and specifications for complete plants, and to make special designs to suit any conditions. We invite inquiries and correspondence, and on receipt of the necessary data will promptly give information and quote prices."

In the matter of cup leathers for which this company is so justly famous, we quote from the booklet: "The successful operation of a Deep-Well Pump depends largely on the packing of the buckets, and cup leathers are the only form of packing that has proved satisfactory in continuous service.

"Good cup leathers will last a long time, sometmes for years, before wearing out. Inferior cup leathers give trouble from the start, cause a loss of efficiency, and waste power, time and money. Experienced pump men known this, and always specify Ames California Cup Leathers.

"The most essential thing in a cup leather is durability. It must often work under conditions that would ruin any other kind of packing, and must give the maximum service before being replaced. Generally the cost of a set of cups is very much less than the cost of labor necessary to pull the valves from the well and replace them, especially in deep wells.

"A good, durable cup leather must be made of proper material, must fit the cylinder just right, have the correct shape and thickness and a workmanlike finish. This requires experience, skill and proper facilities. If the material is not suitable it will not make a good cup, no matter how expensive a leather is used. Only a specialist can make good cup leathers."

## NEARLY SET THEM UP.

Two Irishmen were discussing the death of a friend. Said Pat: "Sure Casey was a good fellow." "He was that," replied Mike. "A good fellow, Casey."

"And a cheerful man was Casey," said Pat. "A cheerful man was Casey, the cheerfulest I ever knew," echoed Mike.

"Casey was a generous man, too," said Pat "Generous, you say? Well, I don't know so much about that. Did Casey ever buy you anything,"

"Well, nearly," replied Mike, scratching his head. "One day he came into Flaherty's barroom, where me and my friend were drinking, and he said to us: "Well, men, what are we going to have—rain or snow?" "

## THE LOWEST TERMS.

A man purchased some red flannel shirts, guaranteed neither to shrink nor fade. He reminded the clerk forcibly of that guarantee some weeks later. "Have you had any such difficulty with them?" the clerk asked.

"No," replied the customer; "only the other morning when I was dressing, my wife said to me, "John, when did you get that pink coral necklace?"—'Success."

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_____ 1909

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60 H. P. Western Pumping Plant

# A Frequent Mistake

made by engine buyers is to suppose that one engine is as good as another, the only difference being in the price. Certainly, many engines can be bought for less money than the WESTERN and this fact sometimes leads the prospective purchaser to the conclusion that to buy a low-priced engine will be an economy. This is not so. The one essential of an economical engine is that it shall give the maximum service for the minimum expenditure. If it is cheapened to a point where it fails to do this, **any** money put into it is an extravagance.

In the WESTERN every detail of design and construction has been to reduce the fuel and maintenance cost to the lowest possible figure. That we have succeeded is being constantly proven where our engines are installed alongside other makes, doing the same work, under the same conditions, developing **more** power, with **less** fuel.

Write for Catalogue.

Have you heard of the Nix-Frost Crude Oil Gas Producer? It's "The Cheapest Power on Earth."

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# The Smooth Running, Noiseless Pomona Deep Well Pump

It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

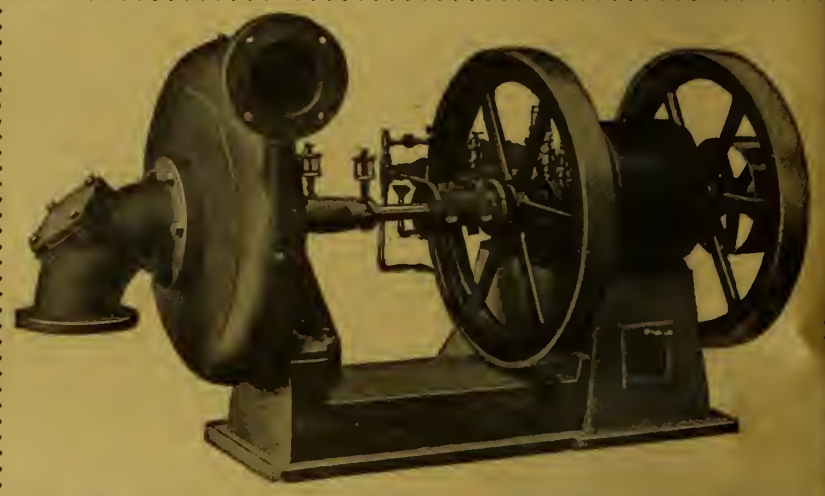
This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.

**POMONA MANUFACTURING CO.**

**POMONA, CALIFORNIA**



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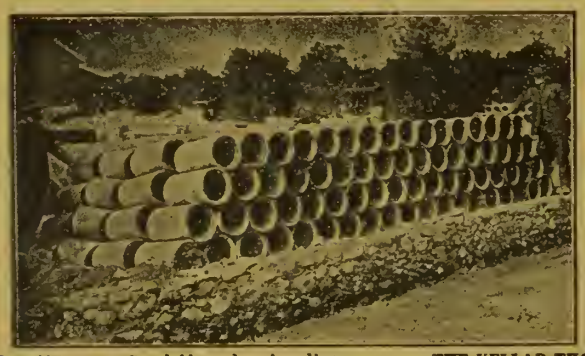
**LOS ANGELES** 212 N. Los Angeles St.
**SPOKANE, WASH.** **SEATTLE, WASH.**



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**Ten-Inch Pipe**

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

**"K T" Moulds**

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

THF KELLAR-THOMASON MFG. CO., Covina, Cal

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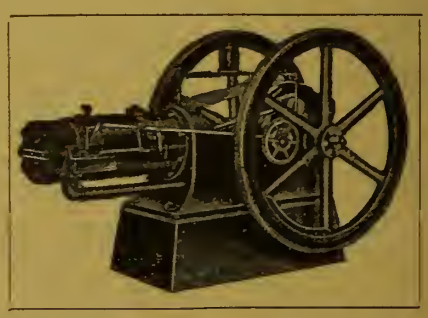
Send for Bulletin No 12.



**COMMERCIAL ENGINE CO.**

**951-955 No. Main St., Los Angeles, Cal.**

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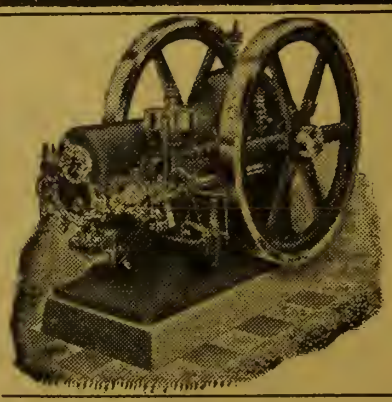
R. P. Grant, a baker of Visalia, Cal., U. S. A., writes: "During the time I have used Malthoid Roofing, my bakery has been damaged by fire on four occasions, which was communicated from the outside. In none did the fire reach the interior through the roofing, although subjected to terrific heat. Through Malthoid's efficiency as a fire protector, I have saved many thousands of dollars."

**The Paraffine Paint Co.** No. 34 First Street San Francisco, Cal.

E. G. Judah, General Representative, Security Bldg, Los Angeles



## Another New Gas Engine

Is amongst us and if you are in need of power you should investigate this one. You will find that it possesses the most desirable features of all the old timers and the price is right. Plenty of catalogues for distribution.

***Henshaw-Bulkley & Co.***

**262-264 So. Los Angeles St., Los Angeles**

# Second Hand Irrigating Plants

Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

**Western Machinery Company**

**230 Main Street, San Francisco, Cal.**

# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

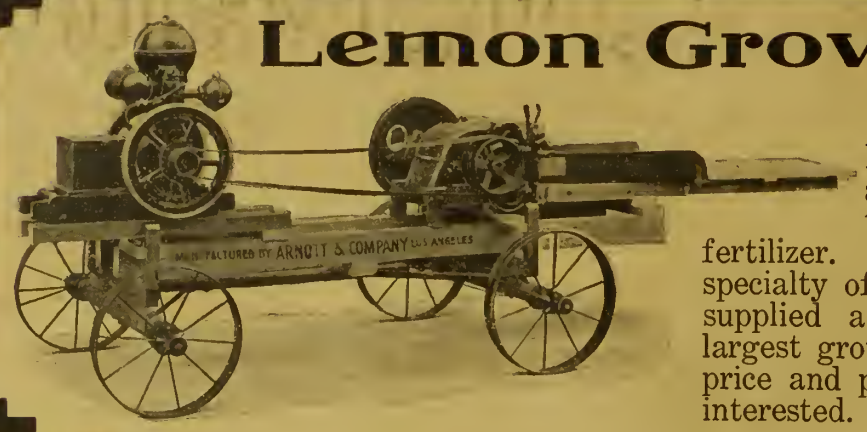
Los Angeles September 9, 1909 San Francisco


## Bridal Veil Falls, Yosemite

One of the Attractions of California's
Most Beautiful Resort

# EVERYTHING FOR THE RANCHER.

## Lemon Growers

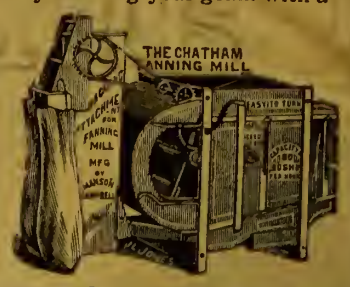



Chop up your lemon prunings and cultivate them under for fertilizer. We have made a specialty of these rigs and supplied a number of the largest growers. Write for price and particulars if interested.

QUALITY ARNOTT GUARANTEED **ARNOTT & CO. INC. 112-118 S. LOS ANGELES ST., LOS ANGELES, CALIF.** QUALITY ARNOTT GUARANTEED

# Make More Money

By cleaning your grain with a




**Chatham Fanning Mill and Bagger**

Take out all the foul seeds. The Chatham will do it—and it will clean all kinds of grass seeds. Trirty days free trial. Freight prepaid to your depot. Write for big catalogue.

**GEO. W. FOOTT,**
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**John Lynch** Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal.

# Sulphur Spraying Machine

For Dry Spraying

## The Vermorel "Torpille"

Celebrated French

## Knapsack Sulphuring Machine

The Machine That Will Save You Money

Read what Prof. Bioletti has to say about this machine:

In reply to your favor of October 12th, regarding our tests of the Vermorel Torpille Sulphur Machine, I will say that it has given us very good results. We have been able by means of this machine to sulphur the vines in the most satisfactory manner with a much smaller amount of sulphur than with any other machine we have tested.

(Signed) FRED T. BIOLETTI,
Professor, University of California, Berkeley.

We have arranged for only a limited number for importation; place your order with us now for February delivery.

**F. W. B. Resublimed Flowers Sulphur** is the best for use in this machine.

**Price $15 Each f.o.b. Los Angeles or San Diego**

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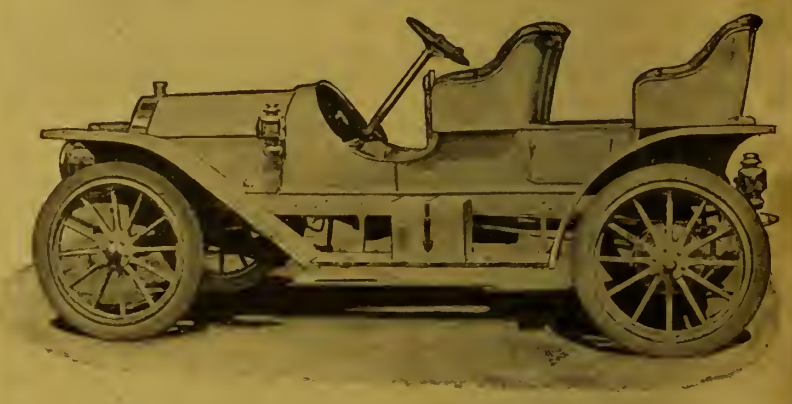

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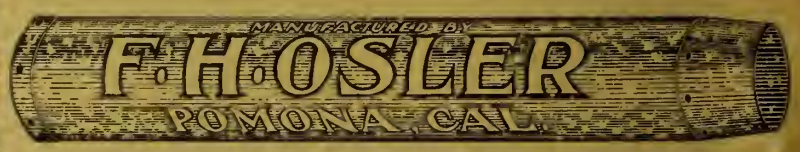


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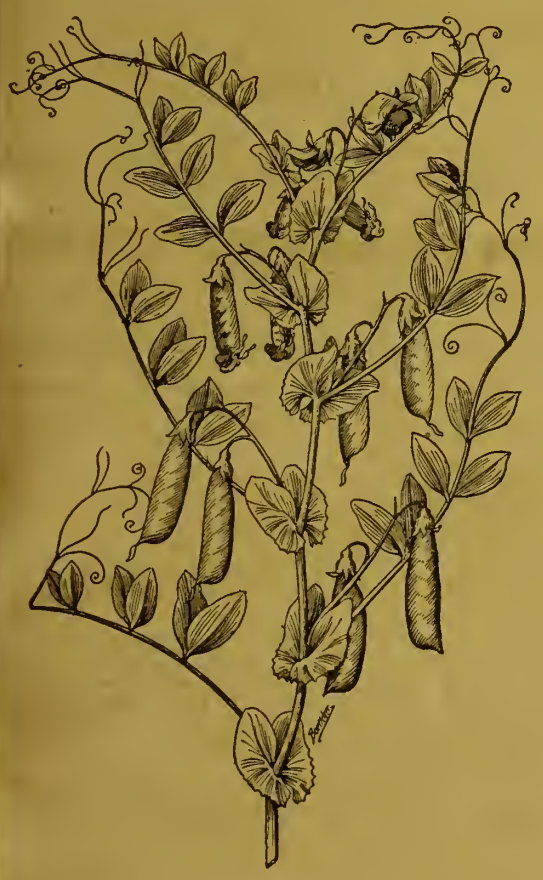
# California Cultivator

Vol. XXXIII—No. 11 Los Angeles, California, Thursday, September 9, 1909 Subscription $1 a Year

# Humus Secured from Green Manure Crops

## A Symposium. Methods of Planting and Plowing Under of Cover Crops, Written by Practical Workers in Various Parts of the State

THE MOST active and important of our plant foods is nitrogen, and to secure the fullest benefits from it, the soils must have abundance of humus and be in a mechanical condition which will admit air to all portions. Air is necessary for it permits of chemical changes which make the nitrogen which is in the form of organic compounds available. These changes are brought about largely through living organisms in the soil, and these organisms also cannot exist without air. Therefore, one of the principal questions confronting the soil tiller is that of the mechanical condition as well as actual chemical content which may he shown by an analysis. Of the two evils; a soil comparatively poor in the



Canada Peas.

elements necessary to sustain plant life but physically kept in good condition; and a soil rich in nutritive elements, hut in such physical condition that the roots are unahle to appropriate them, we would prefer the former.

Through years of experiment and ohservation, Californians have come to the definite conclusion that the one thing lacking in California soils is humus, and because of this lack a physical condition exists which makes it impossihle to get hest results from the soil. To secure humus, the addition of stable manure is perhaps the oldest method, hut for many years the planting of cover or green manuring crops has heen followed, and now more extensively than ever hefore. There is one peculiar effect of green manuring. Its results vary according to the original character of the soil. If sandy or gravelly, the soil is made darker in color and becomes more retentive of moisture. Clayey soils, on the other hand, are made more porous and friable and are less liahle to puddle or hake. They are also given hody so that they are less liable to erosion. Rich, loamy soils show less apparent effect than either of the others.

While this is proving so beneficial, growers have cast ahout to make it more so if possible and actually add fertilizing elements, or at least one element. This element is nitrogen which exists in abundance in the air. It has been proved that a certain kind of plants possess the power of absorhing this nitrogen from the atmosphere and making it availahle for the use of other plants. These plants helong to the leguminous family and comprise the clovers, alfalfas, peas, heans, vetches, lupines, and some others. The use of these plants in the southern part ot the state was so extensive last year that close to one hundred cars of seed were shipped from the Northwest. This seed was sown from the last ot August to the first of January. Generally its use has heen found beneficial, though sometimes it has been condemned. Therefore to get reliable information from those who have had actual experience, the Cultivator has sent to orchardists in various parts of the state, the following series of questions which has brought in the answers given on this and the following pages:

1. Do you grow green manure crops in your orchard or vineyard? What is the permanent crop?
2. What is the nature of your soil and sub-soil?
3. Do you prefer vetches, peas or lupines, or do you trust simply to the native growths? Wi you give reason for preference?
4. How many pounds of seed per acre do you sow, and do you broadcast or drill?
5. Do you use hone, superphosphates or other fertilizers to stimulate growth of green crops, and if so, do you drill in fertilizer prior to sowing seed?
6. Do you irrigate ground before seeding, and do you leave so it can be irrigated after crop comes up, or do you depend entirely upon rains?
7. What time do you plant?
8. Have you found the green crop to interfere with fruit gathering or other necessary winter opeations?
9. Do you plow under or cut up with disks, and how do you proceed to get completely under? What is condition of crop when you plow under?
10. After plowing do you harrow, or do you use any "Sub-surface packer" and is there any difficulty with pulling out before it is decayed?
11. Please give estimate of numher of tons of green stuff an ordinary season will give for turning under.
12. Since green manuring, have you noticed any gain in moisture holding capacity, less hardpan, or otherwise a better soil condition?

**Ben F. Thorpe, Covina, Los Angeles Co.**

In sending his answers to the questions, Mr. Thorpe of Covina writes: "I have been conducting a series of experiments under the direction of the Department of Agriculture in Washington, and have had some very interesting results. Have tried several new varieties of legumes, some of which give much hetter results than common vetch, hut they have not as yet been introduced long enough to place the seed on a commercial hasis, as present prices are prohihitive. Have grown both summer and winter crops on the same orchard with good results. I consider it highly important to get the crop planted early and plow or disk it under hefore Fehruary first, or before the trees begin to hlossom."

1. Have grown cover crops in my Valencia orange groves for seven years. Common vetch is my favorite.
2. Soil is light sandy loam.
3. I prefer vetches.
4. Drill in 60 pounds of seed per acre.
5. Drill in fertilizer first and then use hoth bone and superphosphates.
6. I irrigate hefore seeding and after crop comes up.
7. Plant September 1st.
8. Have not found that the green crop interfered with orchard operations.
9. I disk harrow when crop blossoms.
10. Have no difficulty with pulling out.
11. I estimate that an ordinary season will give about 20 to 30 tons.
12. The green manuring has given my land gain in moisture holding capacity, less hardpan, and better soil condition. Light soil is made heavier hy addition of humus and heavy soil is made lighter. By preventing land in orchard from washing during heavy rains it will repay hig interest on cost, to say nothing of value as fertilizer or improving mechanical condition of soil.

**A. E. Way, Fresno.**

1. I grow burr clover.

Soy Beans.

2. Soil is sandy loam with red hardpan.
3. I prefer hurr clover as it is a native clover, seldom needs inoculation and does not need as much moisture and warmth as peas and vetches. Indeed it seems to thrive even during the cold fogs we experience here sometimes in the winter.

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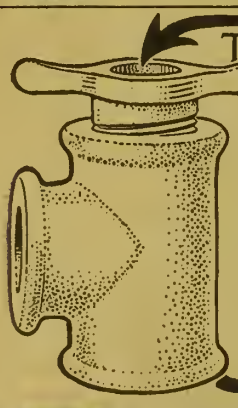

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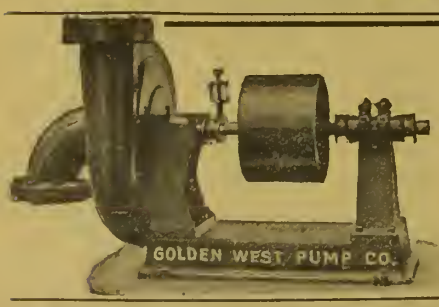


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# Melilotus Clover

## the Great Cover Crop

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4. I find 15 pounds of recleaned seed sufficient. Have always broadcasted, but drilling would give better results. I have not sown any for the last two years as it reseeds itself from a ridge that I leave in the center of each row of vines, which of course is plowed up in the cross plowing.

5. I have never used any fertilizers to stimulate growth, but have every intention of using gypsum this winter.

6. Depend entirely on rains.

7. I plant as early as possible in autumn, so as to get first rainfall.

8. No. I have not found it to interfere with orchard work.

9. Always plow under, using a rolling coulter. I try to plow under when clover is in succulent stage, as it decays more quickly. Have used disk to chop up clover but found growtn too dense to permit of this.

10. Harrow directly after plowing under, harrowing the same way as I have plowed, which completely covers any clover that might be above ground. I always allow a fortnight's interval before cross plowing. This of course can only be carried out on a small acreage.

11. Do not know as to tonnage, except that I try to cover every inch of ground with clover.

12. Burr clover being shallow rooted cannot affect hardpan. Soil condition is decidedly better, easier to work and keeps in good tilth, vines are healthier, canes thicker, foliage a darker green and yield of grapes is larger.

I intend this autumn to sow alfalfa in the wide rows (12 feet) of the vineyard, that is, if I can possibly get a mower that will cut a strip of three to four feet wide directly before or behind the team, in which case I believe it will be the best green manure crop to grow. I have seen the results of alfalfa in orchards and am very anxious to try it in the vineyard.

**C. C. Teague, Santa Paula, Ventura Co.**

1. We have been growing green manure crops in our lemon and walnut groves for about five years.

2. We have all kinds of soil. More of a clay loam nature than any other.

3. We have used fenugreek principally and have obtained good results from that—better than from anything we have tried. We have tried vetches, beans, lupines, but did not succeed in getting as good tonnage of green stuff as from fenugreek.

4. We have been putting on from 15 to 20 pounds seed to the acre. We drill the seed in lemon groves, but broadcast it in walnut groves. We have obtained good results both ways but consider drilling best.

5. Have been using complete fertilizer and have been drilling in 10 pounds to the tree prior to planting of cover crop.

6. In the lemon groves we irrigate the ground just before seeding, but in the walnut groves we seed immediately following the harvesting of the nuts, and without rirrigation, in both cases harrowing the ground before seeding, so that the crop can be irrigated in case of short rainfall.

7. During the month of Sept.

8. No. Have found it to be an advantage, as it prevents the washing of ground by heavy winter rains, and saves cultivation during the winter months.

9. Plow with disks, and in case of very heavy crops, run an ordinary spike-tooth harrow ahead of disk. Delay time of plowing as late as possible and still make sure of getting ground is good condition before rainy season is over, regardless of condition of the crop.

10. After plowing, use disk harrows getting the surface into good mechanical condition and to avoid pulling green stuff on top before it is decayed.

11. Weighed what we considered average yield in our walnut groves last year and it weighed 18 tons of green stuff to the acre.

12. The mechanical condition of our soils has improved constantly since beginning to grow cover crops. Land that was before refractory, and very difficult to work, has become pliable and can be handled with more ease, and holds the water better and in every respect is greatly improved.

**J. W. Mills, Marysville Yuba County.**

This most valuable adjunct to horticulture has been almost entirely left to nature in the Sacramento Val-

Cow Peas.

ley. In fact artificial fertilizing of every description has been neglected. There are a few instances where commercial fertilizers have been used, but under very unfavorable circumstances which in the past season could not possibly show their worth.

Without irrigation facilities with which to control the moisture conditions, fertlizing of any description is sure to give uncertain results. For this reason, this part of horticulture has not met with encouraging result in the greater part of the Sacramento Valley. Last spring, for instance, was exceedingly dry, there being no rain from early in March to the present time. Under such conditions, green manuring, or fertilizing the soil in any way, would give negative results, no matter how well it was done, provided there were no means of applying sufficient moisture to make the material available. In the case of green manuring, little or no crop was possible, except on naturally moist land.

On moist land, the vetch that is so extensively used in Southern California, does exceedingly well. Land that was flooded for a period of two weeks in January, grew a volunteer crop of vetch—waist high, which was highly prized as hay for dairy stock.

When it is remembered that fruit growers were hard pressed last spring to get their ground broken up under natural conditions, it will be readily seen that a green manuring crop would have been a detriment. Only where irrigation is possible, is it advisable to grow green manuring crops unless they are on land that can be worked within a few days after a heavy rain fall. Northern California is in no way ahead of the south in this case.

Crops that have come under my observation show that vetch is the most desirable. It should be sown in the dry ground where possible so as to come up with the first rains. Inoculation is not necessary, but desirable. We planted inoculated seed and some that was not inoculated and found nodules on the plants from both. When sown in dry ground, there would perhaps not be as effective or complete inoculation as when sown in moist soil. Our soils grow so many varieties of legumes that very few will not become inoculated through the soil.

**Geo. C. Roeding, Fresno.**

My experience with green manure

Hairy Vetch.

crops in this locality has not been entirely satisfactory with either vetches or peas and in the future my experiments will be along other lines.

I tried Canadian Field Peas in an orange orchard at Exeter in which the soil was of a heavy, black, adobe nature and instead of the trees being benefited by the application of the peas, they seemed to show a setback and it took several years before we could get the trees back to a thrifty condition. It may be possible that the peas were sowed too late in the season. They were not planted until in November and were not plowed under until they became rather dry so it is quite possible that this may have had something to do with their not giving more satisfactory results. This experiment was made in the foothill lands of Tulare county.

I have tried them on sandy soils in my orchards at Fresno. I have found, however, that unless irrigating water is available in October, which seems to be the most satisfactory month to put these peas in, so as to moisten up the ground before planting, that they will not start. To wait until the winter rains commence, which in many years in this locality do not begin until November and even later, makes the season in which they should make their growth so short that they do not become sufficiently advanced to accomplish the purpose for which they are put in. I would not advise orchardists to attempt the planting of these peas, unless they can arrange to secure water for irrigating purposes in the fall of the year, for without this the results will simply be nil.

I have tried Black Eyed beans on one or two of my nurseries, sowing them broadcast, with a view of stimulating the soil in which several crops of nursery stock had been growing. These beans were planted in April and in order to keep them in good growing condition, it was necessary to keep the ground well irrigated. Such irrigations could not be followed up by cultivation and although, the beans were turned in before they were fully ripe and after the ground had been irrigated, our experience with them was such that this plan of green manuring the ground will not be followed in the future.

I planted a lot of cuttings on ground treated in this way last year and it remains rather cloddy and has the appearance of land which was plowed too wet after a heavy rain. I attribute this condition to the fact of the constant irrigation without following it up with cultivation. The cuttings on this ground are not growing in the manner they should considering the amount of green material that was turned under.

My experiment next winter will be to plant barley and rye in both orchard and nursery ground as this will sprout and grow without irrigation and I expect to turn it under when it is a couple of feet high. The ground would be plowed during the latter part of January or early February and from my observation of the use of such crops on land in other localities, I am quite sure that I will secure more satisfactory results than by the use of vetches or peas.

**A. N. Judd, Watsonville, Santa Cruz, Co.**

The most exasperating problem the horticulturist has to contend with is that of fertilizing. I wish there could be some hard and fast rule given, even in cases where soil conditions are known, which would stop this everlasting groping in the dark, but nature often steps in and blasts hopes that seem to be almost realized, and then we go off on another tangent and waste more money, seeming to forget the lessons of the forests—Mulch! Humus! Mulch! Humus!

Of all the nitrogen gathering plants I would prefer alfalfa. It is the deepest rooted plant we have, offering a conduit for the lowest roots of our orchard trees. It is also one of the best for extracting nitrogen from the air. It should be cut as often as half grown (so that the first cuttings will rot before the next and not interfere with the knife), except the last cutting which should be made when the plants are in full bloom, as it will have all winter to decay. The stubble will also hold the leaves of the trees, thereby saving a much valued humus.

Perhaps the analysis of alfalfa would convey a more tangible idea of its value as a fertilizer. Accordingly, I apend the following from our government reports: "A ton of alfalfa hay contains 44 pounds of nitrogen,

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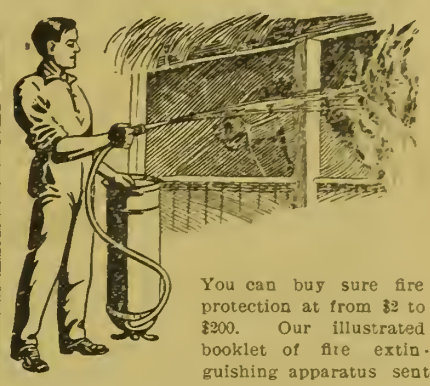

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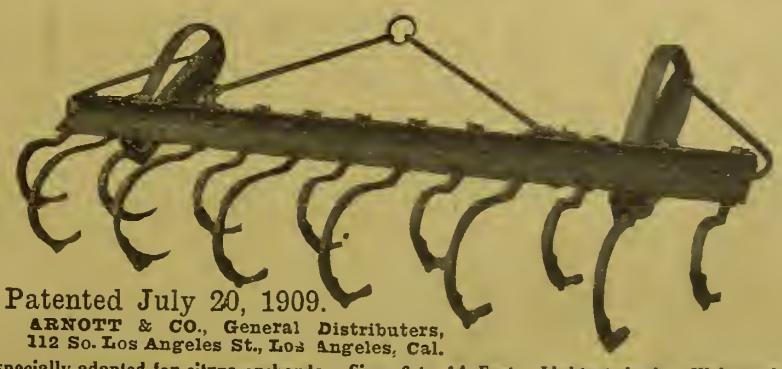

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See Answers to Question No. 3 this Issue

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8.27 pounds of phosphoric acid, 50.95 pounds of potash, and 40 pounds of lime." Being a leguminous plant you can easily understand the roots are covered with nitrogen gathering nodules that are not taken into account in the above analysis.

If you insist on a cover crop, try planting two rows each of horse beans (20 pounds per acre), vetch, and alfalfa, leaving space equal to two rows between the plantings. It is only by comparison that we learn the quickest and most economical as well as practical way to fertilize. The horse bean planted as soon as the seed will sprout in the fall will give the greatest tonnage to plow under in early spring. Like other legumes it should be plowed under while half in pod and half in blossom. Of all fertilizers give me alfalfa. It gives results, a hard thing to get any other way.

**W. E. Sprott, Portersville, Tulare Co.**

1. I generally grow Canadian peas

Tangier Peas.

as green manure crop. Burr clover volunteers in my orchard.

2. My soil is decomposed granite and heavy clay; sub-soil mostly soft granite.

3. Have no choice between peas and burr clover, but sow peas for enrichment.

4. I broadcast 30 pounds of seed to the acre and plow in about three inches.

5. I use bone fertilizers on the green crop and plow under with the peas.

6. I irrigate before seeding and leave furrows for later irrigating.

7. Plant about the middle of September.

8. Have not found green crop to interfere with necessary orchard operations.

9. Plow under with disks at first bloom if possible.

10. I harrow after plowing. If disk plow is used there is no danger of pulling out.

11. Have not estimated tonnage.

12. I find that my land holds moisture better and pulverizes finer since green manuring.

**W. H. Schureman, North Pomona, Los Angeles County.**

1. I grow green manure crops in my orange orchards.

2. Soil and sub-soil are gravelly and sandy loam.

3. I prefer vetches as they will stand more grief, and have a better root system.

4. I broadcast 60 pounds to the acre.

5. I have not used fertilizers to stimulate growth of green manure crop.

6. I irrigate before seeding; then furrow out immediately for future irrigation.

7. I plant the first part of October.

8. The green crop does not interfere seriously with the fruit gathering, but it is a little wet for the pickers some mornings.

9. I plow under with a disk plow which covers well. The crop is green when plowed under.

10. After plowing I harrow smoothly. The vetch will soon rot if the ground is moist.

11. I estimate 20 to 25 tons per acre of green manure stuff.

12. There is a decided gain in moisture holding capacity, the ground keeps mellow and is full of humus.

**Mrs. M. E. Sherman, Fresno.**

1. We grow green manure crops mostly in the orchards. Those planted vary from Canada field pea and burr clover for winter use, to cow pea and horse beans in the summer. We have not used vetch or fenugreek.

2. Heavy red soil inclined to run together and break up in clods. Hard pan from three to ten feet below the surface. The greater portion of the land is sub-irrigated from the large creek in the center of the place that now carries the water of the canal company.

3. Prefer peas and burr clover. Burr clover in the vineyards will self sow if given any chance whatever to do so. If the first plowing is held back until the third week in February it is certain to produce a liberal amount of seed for next year's crop. Peas we have planted with a one horse drill, one or two rows between each two rows of vines in latter part of August or just before the vintage. The first rain starts them to growing and often before Christmas they are visible all over the vineyards. We have broadcasted the peas but the catch was not as good as when we drilled them. Many years in the San Joaquin valley there is little growth made before the time comes when they must be turned under. The rains must come early and the weather be not too cold to secure a heavy growth. The heavy natural growth of yellow top and burr clover gives good results. Alfilaria patches seem to have little effect on the soil even though very dense when turned under.

4. Drilling one row of peas between each two rows of vines takes twenty pounds to the acre. When broadcasted fifty is not too much. Burr clover we broadcast every tenth row of vines and expect it to seed itself after a few years, all over the land.

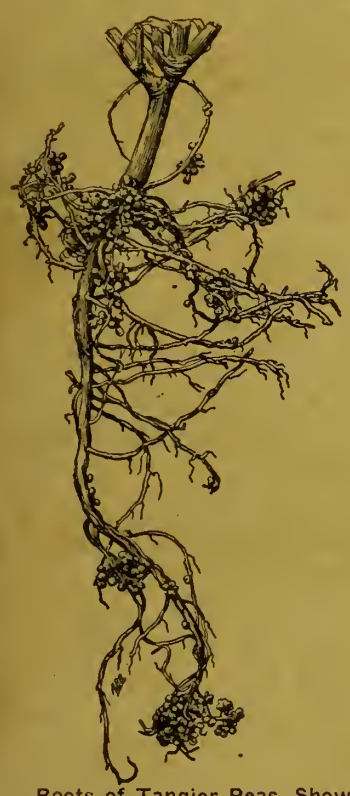
5. No fertilizers are put in with the cover crop. After the first plowing, if needed, bone meal is drilled in and then at last cultivation nitrate of soda is added to the soil.

6. In sowing cow peas in the orange trees in April the ground is moist enough, either from natural rain or from irrigation, to sprout the peas. Later irrigation is applied as needed.

7. We plant in August in the vineyard; in April in the orchards.

8. The green crop does not interfere, but it must go under at the right time to get the cultivation done. If the crop fails to grow fast enough to be a success one year, we hope it will be better the next year. In the vineyards peas do not come on fast enough most years to make it profitable, for they rarely reach the blossom before the time comes to turn them under. Burr clover and sweet clover are usually in bloom, while lower portions have already a few ripened seeds.

9. If the crop is green, it cuts up readily with disks. Then it is turned under with the ordinary plows. Sometimes, however, we use a chain to drag it in better. The peas are easily covered as they chop up readily into small pieces when disked with the disks set on a good slant. The only thing that prevents a cover crop from going under easily is having it too dry. If it is too dry, a little water on the land will make it rot rapidly after it has been covered. If the crop has been allowed to grow



Roots of Tangier Peas, Showing Characteristic Nodules.

too long, I should make arrangements either to water before turning it under or just after it was turned down. If soil conditions of moisture are right and the cover crop green enough, it will turn under completely and in five days afterward should have softened enough to be safe from dragging out when cross plowed.

10. The plow covers the crop enough with us but if it did not I should try using a smoothing board behind the plow, set so that it would shove the high portions of the earth ahead and fill up the holes and depressions.

11. I could not give any idea as to weight as we have never cut it to weigh it and guesses are not accurate enough to make it worth while.

12. The moisture holding capacity is greatly increased. The water used by plants is not drunk up as an animal fills itself with water, but is taken from the particles of soil that it coats as a thin film. Now by adding vegetable matter or humus we make the soil hold itself apart in small particles, each coated with its water film, in the best state for the plant to absorb the moisture and the organic matter held in it. Where a crop of weeds, barley, or grass is plowed under in the spring, year after year, the soil becomes more and more retentive of moisture. We have a vineyard running up to the line of an adjoining place. Both pieces happened to be planted the same year. On our side manure has been spread year after year and then plowed under. On the other piece no manure has been used. Our side is heavy with green growth every spring, often enough to pasture the cows, while the other side remains naked. This time of the year the moisture remains near the top of the manured piece while on the other the vines look parched.

Hardpan in Fresno county is not plowsole made by poor cultivation but a hard formation that holds the irrigation water and is found at places only a few inches below the surface, while in others it is ten feet. Where this hardpan is too near the surface, it has to be blasted out, as nothing, not even a plow can go through it. Now plowsole is prevented largely by use of cover crops as the penetration of the roots alone will help. The turned under green stuff acts like a poultice to moisten it up, but with plenty of humus in the soil it will not form at all. Green manure helps the soil constantly, while the continued use of commercial fertilizers leaves the soil dry and lifeless. The latter may contain the elements of plant food, but owing to lack of water-film the plants cannot as readily take up the food.

(Continued on Page 250.)

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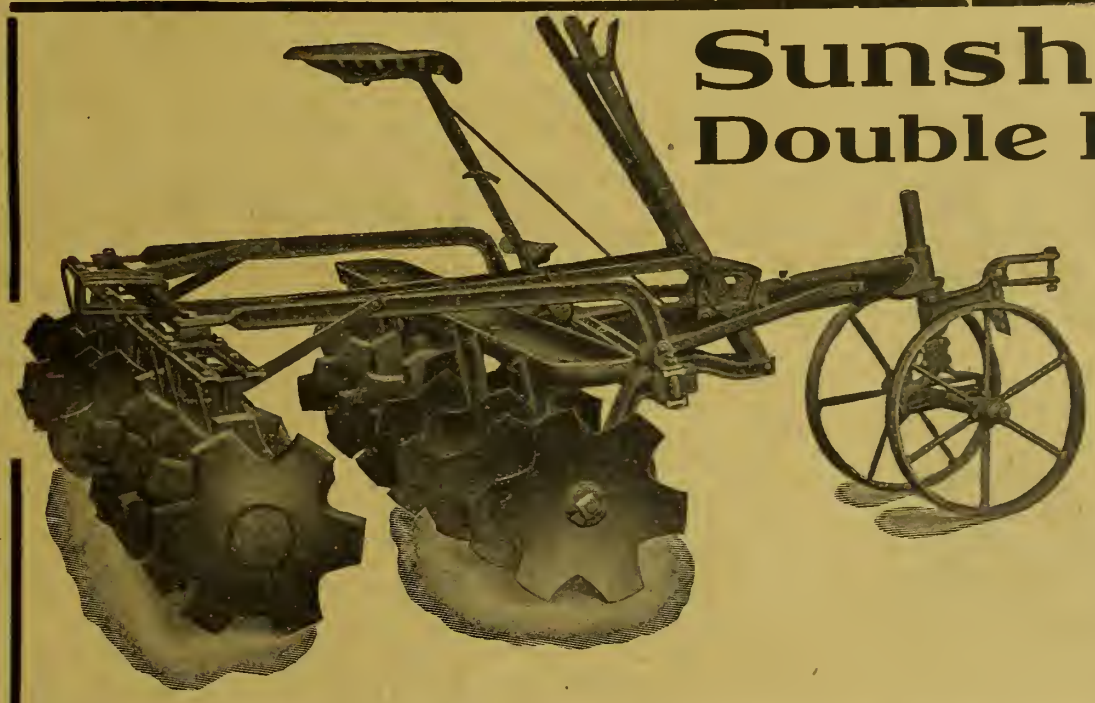

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## THE CALVES.

By Mrs M. E. Sherman.

WHERE the calf is left to nurse the cow for a couple of days there is rarely any trouble from milk fever. The calf only takes a portion of the milk each time and the udder is not chilled by its emptied condition. Sometimes the calf favors certain quarters of the udder and neglects the other portions, causing garget. If it is decided to leave the calf with the cow for the first three days, see that the udder is evenly relieved of its milk. We do not leave the calves with the cows but are careful that all the milk is not removed for the first forty-eight hours. Use a light blanket over the cow after calving if the weather is chilly. Now unless the barn is kept in the pink of perfection of cleanliness and disinfection, it is safer to allow the cow to drop the calf in the alfalfa field. She should be watched carefully but not disturbed by meddling unless necessity arises. If a cow has happened to drop her calf in a dirty place it is well to wash the udder before allowing the calf to nurse. A quart of warm water with a teaspoon of creolin in it will remove any bacteria that may be there.

Calf Cholera.

Where the calves are taken with scours when only a few days old, one cause is often found in their poorly nourished condition when dropped. The young calf carries on its first days of living on the stored up fats of its body. When these are reduced to almost nothing, the start must come from the food taken in at once. The little stomach is as weak as the rest of its body and rebels. Now when calf cholera attacks the pen the proper way to stamp it out is to remove all cows that are springing away from where the cows have been dropping their calves. Put then on fresh ground and in new corrals. Begin at once to feed them grain and plenty of good hay. See that they have no decaying or soured stuffs to eat. When the calf is dropped, bathe the navel cord with a solution of corrosive sublimate 1-500 parts. Put this on the cord twice a day until it dries up. Keep the calves that are not affected out of the pens of the sick ones, leaving the sick ones where they are so that no more land is infected with their droppings. The pens should be sprayed with a good disinfectant and the side walls whitewashed. The best of disinfectants that are not poisonous and that are cheap are the various forms of coal oil preparations offered for sale under different trade names.

Paint.

The wood of the house and the mangers may be soaked with oil of creosote. This will prevent them absorbing much foul matter. The pig pens, stables and fences are readily made to look well by using a paint made from crude oil. We are using it now on the roofs and sides of buildings on the ranch. One gallon of crude oil, heavy oil, colored with three pounds of Venetian or iron red, thinned to spread well with engine distillate. It only costs a few cents a gallon and preserves the roofs and buildings perfectly There are a number of the dry mineral colors that can be used if other colors are desired. Crude oil makes a good inside paint for the chicken house, as it is slow in drying and kills off lice and ticks. The dull red stain is pleasing to the eye, for in California the brightness of the sunshine is often too dazzling when it falls on whitewash. We forget in painting the houses how chary Nature is in the use of clear white, and results are more pleasing when we modify the tones as she does. The white homestead that we read of in the loving description of the wanderers from home, belongs to another climate, where the clouds drift and throw gray shadows over the whiteness of the buildings. This same red stain is good for the inside of the ranch buildings but I rather prefer to have them whitewashed as it makes the interiors lighter.

## THE EFFECT OF RUST ON MILK.

Experiments have repeatedly shown that both tin and iron have a prejudicial influence on rennet action. This suggested the desirability of determining whether or not rusty cans have a similar influence. Part of a sample of milk was placed in a rusty tin pan (with about fifteen rust spots in the bottom of the pan) and the remainder was kept in a Jena glass vessel (breaker) for comparative purposes. The milk kept in the rusty pan gave evidence of a retarding influence on the rennet action as compared with that kept in glass beaker. It required from one to sixteen and one-half minutes longer for the same milk kept in the rusty pan to coagulate than in case of the milk kept in the glass beaker." Wherever there was a retarding influence on the rennet action there was also a retardation of the acid development as well, but the latter was not sufficient to account for the delay in rennet action.

Milk which had been allowed to stand in iron dishes for several hours had a peculiar bluish gray color, indicating the presence of iron in solution. In several instances the amount of iron dissolved in the milk was determined as iron oxid. The maximum quantities of iron dissolved in the milk ranged from 1 to 1½ pounds for every 1,000 pounds of milk. The lower acidity of the milk kept in contact with iron also supports the view that the acid of the milk acts upon the iron and finally causes it to pass into solution (retarding rennet action.)

Milk comes in contact with iron in the form of rusty cans or poorly tinned utensils in practically all creameries and cheese factories. The quality of the milk will to a large extent depend upon the condition of utensils in which the milk is poured, kept, and finally hauled to the factory. The degree of influence of iron on milk will depend largely upon the temperature of the milk, the length of time


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kept in the cans, and the amount of exposed surface.

**Conditions in north European dairy countries.**

In progressive dairy countries of northern Europe the quality of dairy products manufactured is generally uniform, and every precaution is taken to maintain a uniform product. Cleanliess is generally practiced at both the farm and factory. The utensils used are of superior quality, and naturally there is no occasion to consider this problem seriously. As a rule, the European utensils are stronger; the cans, for example, are of heavy steel and well tinned. Experience shows that these heavy cans are the most economical in the long run, and there is less danger of denting in or wearing off the tin.

**Conditions in America.**

It is not necessary to describe here the American milk can, and especially the cheaper ones; if not the first time, surely the second or third time these cans are used one will find places where they have been dented in. As the number of indentations increases the tin begins to crack, leaving fissures or inroads for milk and water and acid. Often this thin layer of tin does not cover all of the iron, thus leaving microscopically small surfaces of iron exposed, which also become the sources of damage by water and acid. Under such conditions the tin peels or falls off, and it is then only a short time before the cans become unfit for use.

**To Remember.**

The attention of the milk producer and the factory operator is called especially to the following points:

(1) A better grade of utensils should be used in the handling of milk and its products. The iron or steel plate should be heavier and more thickly coated with tin.

(2) No milk should be accepted at a factory which has been kept in iron exposed pails or cans.

(3) The factory or creamery should be an example of neatness and cleanliness, with all utensils in first-class condition.

(4) Co-operation among the proprietors of creameries, cheese factories, and city milk supplies will tend to bring about cleanliness among patrons and the use of better utensils.

(5) Milk should be bought on its merits, by some satisfactory arrangement following well-founded sanitary and hygienic rules, by which the production of milk of superior quality is encouraged and milk of low grade either rejected or gradually improved.

## BLOAT.

When your hungry cattle and sheep get into alfalfa or rape for the first time you may have some losses unless you take certain precautions. Even when precautions to prevent are strictly observed some animals will bloat, being out of condition when they go in the field.

The common practice of letting the stock to clover, alfalfa, or rape gradually is this: give them a good fill in the morning on grass or other feed and when the dew is off and they seem ready to lie down, admit them to the clover for an hour. Next day repeat but increase the time. Each day increase the time in clover until it is safe to allow them in all the time. Some do this but a day and then let the cattle or sheep remain day and night in the clover while others always prefer to keep them out until the dew is off.

There may be unnecessary precautions in this, but for pure-bred stock pastured where no one can keep an eye on them it may be worth while. But with the best of care they are apt to bloat. Then what? Quickly get a long necked bottle, put in two tablespoons of turpentine and fill with warm water. Drench the bloated cow with this and in a few minutes she will be all right. Another just as good is a quart of raw linseed oil given in same manner.

For sheep a half teaspoon of turpentine in a pint of water or a half pint of raw linseed oil as drench. Or, put a rope in the mouth and tie over top of head so as to hold head back and mouth open.

At this season you better stock up with either raw linseed oil or turpentine—or both—and instruct every member of the family how to give the dose.

The way to drench with long necked bottle is to hold the head up a little—not much—and insert neck of bottle in the cheek back of the molars. Pour and give animal chance to swallow or you will strangle it.—Farmers Tribune.

**Do your cows milk hard? Send 50 cents for teat expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

## TRAINING THE COLT.

The time to begin education is almost from his birth. Begin then to handle him gently; pat him, rub his head and neck, handle his legs and feet, open his mouth, etc., and accompany this with kind words and perhaps some sugar or other choice morsels. Put a halter on him before he is strong enough to make a strenuous struggle to get away and lead him about within sight of the dam, until he will be willing to go whereever led. Before he is weaned he may be accustomed to the bit by having a stick put in his mouth and held in place by strings. Then use the bit and bridle and teach him to lead by that and to be guided by it. Do all this without blows or loud talk.

Some would hitch up the colt with an old steady horse, driving him in in double harness first, but I should prefer giving his first lesson alone, and afterwards teach him to work or drive with a mate. Teach him to walk first. Trotting or running fast will come to him by nature if they are to come at all. See that all harness put on him fits him well enough not to chafe or hurt him anywhere and never overload him by driving too far or too fast. Many balky or vicious horses are made so by rebelling against tasks that they think are too severe. Do not punish for a little playfulness or coltishness, but restrain him quietly as soon as possible and let him know that he can best work off his superflous energy by doing that which you want him to do. This may not alwys be done without a little corporal punishment, perhaps, but it would be better if it could. Accustom him to automobiles, trolley cars, steam rollers and other objects that seem strange to him by leading him up to them when not in motion; let him see them and smell them and soon he will not be frightened if they move.

A horse so trained may be driven short distances in a light carriage befor he is 2 years oid, if the driver is not too heavy, and at 3 years old may begin to do considerable work and will be easily worth much more than one that is untrained or improperly trained. There is a chance that by that time he will have become so much of a pet and a family favorite that it will seem almost as hard to part with him as with one of the family, but who has a better right to keep a well trained family horse than the man who has raised him, made him what he is and taught him what he knows.—Rural Life.

## "DON'T GIVE MEDICINE."

Frequently when we sell a Jersey cow to a person who has never owned one before, we are met with the inquiry, "what shall we do if she gets sick?" Our usual answer is, "do nothing." Fully ten Jersey cows are doctored to death to every one that dies of disease. On our farm we rarely give a dose of medicine and out of nearly five hundred cattle only one died last year (1908) of disease, and that disease was blood-poisoning. About the only medicine we ever give is ordinary Epsom salts. If a cow has from over-eating or in any other way gotten her stomach out of order, take a pound and a half of salts and an ounce and a half of ground ginger; dissolve in about a quart of boiling water and when the mixture is lukewarm, put it in a bottle and pour it down her throat. This will usually produce a free movement of the bowels and give prompt relief. If it does not, repeat the dose in twelve hours. When the bowels move freely, nature will usually complete the cure.

Feed your cow regularly, but do not over-feed her. Feed her on such feeds as are usually fed to cattle. Do not experiment by stuffing her with strange feeds, simply because you have been told that some one else did so. Good hay, cottonseed hulls, wheat bran and corn meal are the staple and tested feeds in this country. If you feed cottonseed meal do not feed over a quart per cow per day, and when you begin to feed either cottonseed meal or hulls, feed only small quantities until your cow becomes accustomed to it. Rice bran is also a good feed, or rather it will be, when the rice men learn that it will be to their interest to put up pure rice bran without mixing it with rice hulls or other dangerous substances. Do not feed molasses, turnips, slops or potatoes, and feed all cows very lightly for a week before calving. Under fair and ordinary treatment Jersey cows should live to an average of 15 years. We have many strong, active cows that are above that age.

As an illustration of the way some people treat Jerseys we give a letter which we received a few years ago from an apparently sensible man. It reads as follows:

"Gentlemen:—The calf which I bought of you three months ago has always been very playful until yesterday morning he seemed a little stupid, but I did not think he was sick. We gave him a quart of molasses and a pint of lard, but he did not seem to improve and would not eat his feed. I then boiled two plugs of tobacco and drenched him with the water, and an hour later gave him a pint of powdered coal soaked in spirits of camphor. He seemed to grow worse and my brother came over, and on his advice I gave the calf a pint of kerosene mixed with a pint of melted vaseline. It died soon afterwards and almost without a struggle, and I can't imagine what killed it. Do you think it was tuberculosis or Texas fever? I may buy another one soon, but it seems I have hard luck. Your friend, J. C. B."—Jersey Bulletin.

F. M. Sumpter, of Sumner county, Kansas, tells the author he raises and markets 500 to 600 hogs annually. These are grown principally in his abundant alfalfa pastures, with perhaps an average of an ear of corn per day until their six weeks fattening is begun, when they are heavily fed with corn. The unqiue circumstance in connection with his successful operations is that he does not stock his pastures heavily enough to prevent harvesting from them three cuttings of hay each season, averaging a ton per cutting. The advantage he claims for this is that the hogs have continuously a fresh, tender growth to graze on instead of the coarse, woody stems they would have before them if no mowing was done, while the hay secured is as valuable as the same quantity from meadows not used as pasture.—From Coburn's Swine in America.

Of the various mammals whose milk is used for food in different parts of the world may be mentioned the goat in the hilly districts of Europe, the buffalo in India, the llama in South America, the camel in desert countries, and the mare on the steppes of Russia and Central Asia. Sheep's milk is used in some countries for making cheese and in other ways, and the milk of reindeers is commonly used as food in the arctic regions.

Which of these women is you?

One has consented to use a disk filled "bucket bowl" cream separator, and will spend **twenty minutes** twice a day washing the 40 to 60 disks it contains, as shown in the right hand pan.

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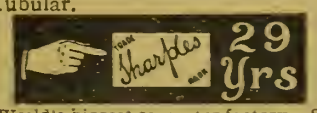


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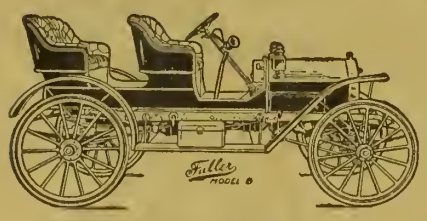

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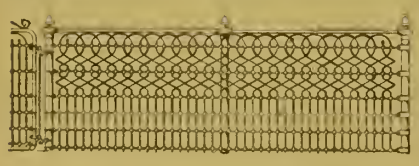

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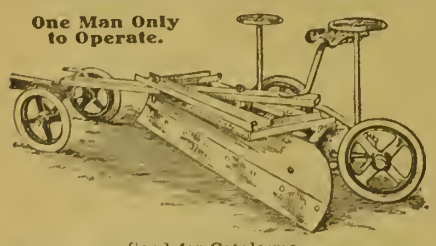

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## GREEN MANURE CROPS.

(Continued from Page 247.)

Commercial fertilizers give better results in moist soils than they do in arid regions. There green manuring or cover crops never render the soil too acid but retain and conserve the scanty rainfall.

**Charles C. Chapman, Fullterton, Orange County.**

For several years I have grown green manure crops, preferring vetch; at least have used this with satisfactory success. My soil runs from a sandy loam to a heavy, cold soil.

I prefer the vetches to any other I have experimented with for the reason that I seem to get a heavier growth from these than any other, and that is what I am after.

I usually drill about forty to sixty pounds to the acre in the orange orchard. Preceding the sowing I have drilled a small amount of tankage, doing this more to assist the growth of the vetch than anything else.

I have irrigated thoroughly before seeding and leave the ground in condition to irrigate afterwards if necessary. I plant as early as I can which is usually in November. I think, however, it would be better if it could be put in thirty to sixty days earlier.

I have never found the green crop to interfere with gathering the fruit. I have usually plowed under the green crop with disk plows. With these it can be done very effectively. We make no further treatment of this soil for sometime after plowing, frequently having rain to assist in the process of decay. I presume we grow from ten to fifteen tons per acre. I think the green manure is helpful in holding moisture, and in general puts the soil in better condition.

**Roland S. Vaile, Claremont, Los Angeles County.**

1. We have grown green manure cover crops between our orange trees one way for the past three years, and will plant again next fall.

2. Our soil is largely a heavy loam, with traces of both clay and gravel. The sub-soil is similar to the surface.

3. We prefer vetches, because we have found better nitrogen nodules on the roots, because they plow under better, and because they rot quicker, according to our investigations.

4. We sow 40 or 50 pounds to the acre. Have sown both ways, and if the work is well done can see very little preference for either method.

5. The past two years we have drilled in a complete fertilizer some two weeks before sowing seed, as additional food for the trees as well as a stimulant for the cover crop. We drill early so that it may be largely dissolved before seeding. Undissolved fertilizer has a tendency to rot the seed.

6. We always irrigate the ground thoroughly before sowing, and plant while soil is still moist. We irrigate two weeks after planting with very small streams and then once a month until the regular rains.

7. We plant about the middle of September; this year it will be just as soon as the fumigators can get through.

8. Cover crops are of no great hindrance in an orange orchard; in fact they save the work of cultivating after the rains. It is a little hard to watch for gophers, but when the crop is planted only one way that difficulty is largely done away with.

9. We have found it best to disk first and then plow the crop under. The vetch is usually about a foot high and somewhat spreading when we plow. We do this sometime early in February.

10. After plowing we use a harrow to smooth the ground. Then after a few weeks it will cultivate without pulling out.

12. The physical condition of our soil has been greatly improved by green manuring. The clay has become more porous, the gravel retains moisture better, and the pure loam is easier to keep soft and mellow for a considerable depth.

We expect to put alfalfa in a young orchard this fall and leave it for two or three years. We hope in this way to get good results, to keep an all year crop while the trees are small, and get one or more cuttings of alfalfa each season.

**E. L. Dreher, Pomona, Los Angeles County.**

1. I grow green manure crops in my orange orchard.

2. The soil is gravelly loam.

3. Prefer use of vetches. Have never tried lupines but have used the field peas. Vetches have finer growth and root system and more solid substance than the field pea which makes rank growth containing much water. The peas will die when driven or trampled on; the vetches will not.

4. Sow broadcast with drill 50 to 60 pounds to the acre.

5. Have used bone meal but could see no effect.

6. Irrigate and cultivate thoroughly before sowing. Furrow out immediately after sowing and irrigate every two weeks until sufficient rain.

7. Plant in September.

8. Green crop does not interfere with orchard work.

9. Do not plow. Cut with disk four ways waiting three or four days between each disking so as to give time for that which is cut off and exposed to partially dry, and that which is covered to partially rot. Do not get the cover crop under but pulverize it with the soil. Disk the latter part of February and March and do not go by the condition of the cover crop but by condition of moisture in the soil.

10. Do not plow.

11. Have not estimated tonnage.

12. To the last question I would say emphatically, yes; especially in improved mechanical condition of soil. I have no hardpan.

Last year the U. S. Agricultural Department sent me 18 pounds of Tangier peas which I sowed and consider far ahead of the vetches. It makes a heavier growth of both top and root and has larger nodules than the vetch. Otherwise resembles vetch closely.

**John Burr, San Fernando.**

1. I grow green manure crops in my orange and lemon orchards.

2. Alluvial soil washed down from the mountains. No hardpan.

3. Have tried peas, but prefer vetch as it forms better sod and decomposes more rapidly.

4. Broadcast about 35 pounds per acre.

5. I scatter fertilizer and plow in with vetch, then about June scatter again about five pounds per tree with about two pounds of nitrate of soda.

6. I irrigate before sowing and after covering. I make about six light furrows so that if necessary it


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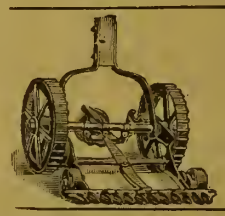

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can be irrigated if it doesn't rain.

7. Plant in September.

8. Green crop does not interfere with orchard work.

9. Turn under about the first of February. If very rank I disk before plowing, if not, plow under from four to five inches.

10. After plowing, I disk to cut up and pack it.

11. I have never estimated crop, but it makes a nice sod.

12. There is no question in my mind but it improves the condition of the soil, retains more moisture and is an advantage in tree growth.

**O. S. Jewett, Lordsburg, Los Angeles County.**

1. I use green manure crops in my orchards.

2. Soil is heavy; 12 feet to close clay.

3. Prefer vetches. They plow under easiest and decay soonest.

4. I use 45 pounds of seed to orchard acre, and consider drilling preferable as it covers all the seed.

5. I do not use fertilizers for the green manure crop.

6 and 7. I sow the seed after a September irrigation, then leave ground level as furrows carry off too much winter water.

8. The green crop is sometimes damp for fruit pickers.

9. The disk plow puts it completely under.

10. I harrow to pack it down so it will decay.

11. Have never weighed and estimated tonnage.

12. By green manure crops soil conditions are much improved. There is no question but that the ground will hold moisture much longer.

**B. E. Hutchinson, Fowler, Fresno County.**

We cannot grow green manure crops here as we cannot get water after September 1st and the rains come late. We use all kinds of fertilizers. Green stable manure is best for our sandy loam land. I am sorry I cannot raise something to make more humus and save the expense of fertilizers. I am a great friend of cover crops, but cannot benefit by their use until I put in pumping plants.

**V. V. Le Roy, Claremont, Los Angeles County.**

1. I have grown vetch in my orange orchard for six years and peas for two years.

2. Soil is sandy loam with gravel sub-soil.

3. I prefer vetch, because it gives a better cover, stands dry weather and cold weather better than peas and also stands wear and tear better. Peas cannot be walked or driven over, but vetch can to a limited extent. It is also much easier to get under in the spring. I allow all native burr clover to grow.

4. I drill in 40 to 60 pounds of seed per acre, according to space between the trees.

5. I use steamed bone meal, drilled in just before the vetch seed is drilled. The one and a half per cent nitrogen helps the vetch to start well, and the phosphoric acid is in the soil ready for the growth of the trees.

6. I irrigate just before seeding and leave shallow furrows for irrigation if needed.

7. I plant early in September.

8. The manure crop does not interfere with orchard work.

9. I use a disk plow as it turns crop completely under. I plow under when the vetch has formed a mat a foot or more deep.

10. I use a disk harrow or a leveler and plow the other way in about two weeks. The vetch rots thoroughly, so that there is nothing to plow up.

11. Have not estimated tonnage. Vetch gives as good a crop as alfalfa on the same surface.

12. This leaves the soil in much better mechanical condition. There is no hardpan and soil holds water well. There are many advantages in a cover crop besides the value as a fertilizer and for humus. When cover crops are not used, the constant cultivation necessary not only means work and expense, but stimulates the growth of the trees when it would be better for them to be dormant, and causes the fruit to ripen and fall much earlier. The cover crop also holds the winter rain on the place and allows no washing. The roots form good channels for the rain to penetrate deeper into the soil. In short, there are so many advantages in a cover crop that it is hard to understand why everybody don't have them.

**E. L. Koethen, Riverside, Riverside County.**

1. I grow green manure crops in my orange orchards.

2. Soil is heavy adobe derived from granite.

3. For shady orchards, large seedlings for instance, I prefer vetches. Even here in order to get satisfactory results, the seed must be sown early, as early as the last week in August if possible. Given a start before the dark fall days begin, it seems to make a very satisfactory growth, but if left till late, the sowing will result in spindling plants not worth the cost of the seed. I have not tried lupines, but find Canada field pea a very satisfactory plant with good deep roots. It matures so rapidly that it can be plowed under much sooner than the other varieties. My best results have been with peas sown the way of the irrigation furrows, and burr clover broadcasted crosswise. This combination gave us the largest yield of green material ever obtained from a cover crop. Burr cover alone is excellent.

4. I sow 60 pounds of peas, 50 pounds of vetch, or 12 pounds of burr clover per acre. In sowing a combination of peas and burr clover, I would recommend 50 pounds of peas and 8 pounds of burr clover; or if the combination should be peas and vetch, 50 pounds peas and 20 pounds vetch. All experiences go to show that heavy sowing pays well in giving additional growth. The plants seem to shade the ground quickly and do better because of that protection.

5. I would recommend the use of bone well steamed and ground fine in all cases where phosphoric acid is liable to be deficient in the soil. I usually apply the phosphoric acid in the form of tankage in the spring in abundance. If this has not been done, the bone should by all means be applied at the time of sowing the cover crop. We just mix the seed and bone in a box and sow with the fertilizer drill. Would not advise the use of superphosphate in this way, as it is liable to act against the development of soil bacteria and prevent the formation of nodules.

6. I irrigate before sowing and then keep up the irrigation regularly

(Continued os Page 256.)


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ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 DUANE ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, September 9, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

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## Soil Fertility.

SO MANY things enter into the production of a plant, from the planting of its seed to the maturing of its fruit, that the soil tiller is often confused. We mean the observing soil tiller, for many, of course, it must be confessed, deposit the seed and await results. In case the crop is a partial or total failure, then it is merely a case of "luck." But there are others that are so full of questions that when failure does come, they bristle with interrogation points until the how of the failure is definitely known, or at least as definitely as possible with our grasp of the great agricultural problems

Perhaps one of the most perplexing of the great questions we have studied is that of the soil. We have found some answers, but there are many more for us to delve after. As one of our contributors says this week: "I wish some hard and fast rule could be given, even in cases where soil conditions are known, which would stop this everlasting groping in the dark." Perhaps if this easy solution were given to us, much of the zest would be taken from agriculture. These are problems which once solved make the calling worthy to be followed by intelligent men.

Not only is the problem hard to solve, but the item of economy must be considered. The soil was given to us originally rich and productive. Years of cropping have reduced this productiveness, not only by the actual taking up of elements by the plants, but by inducing a chemical condition of the soil which renders them unavailable to the roots. Of the many elements required in the production of plant life, all are in such abundance that renewal is not necessary excepting in the case of three, nitrogen, phosphoric acid and potash. The most expensive and most liable to loss through leaching and evaporation, is nitrogen. Only a few months ago, some authorities maintained that the time might come when this element would become so scarce on the face of the earth that human life would disappear because of the lack of food producing power of our soil. If this occurs, however, it will be so far in the future that many generations will pass first. But now that we manufacture nitrate of lime by an electrical process and capture nitrogen from the air by leguminous plants, it appears we can keep abreast of the demand for nitrogen. The first mentioned of these processes is yet in an experimental stage, but the capturing of nitrogen from the air is so general in all agricultural countries that it is adding greatly to our wealth. This process has been deemed worthy of special attention in this week's Cultivator, and beginning with the first page and running through nearly all the paper may be found a series of articles by practical men on their methods of work.

## Humus.

IT WILL BE plainly seen in the articles mentioned in the above paragraph that nitrogen is not the only addition to the soil which must be secured in order to get best results. The soil may be rich in nitrogen, and yet the plants may die or have indifferent growth because the soil may not be in such condition that the roots can secure it. It is made available by the presence of humus or decaying vegetable matter which is in process of transformation into nitrates. Humus permits the active working of the bacteria or nitrifying agency. One of our contributors has said, "With all your getting, get humus."

The need of California soils for this substance has been proven in orchards and vineyards where soil which was exceedingly rich has failed to produce fair crops notwithstanding the fact that expensive commercial fertilizers have been added in abundance. California's hot sun combined with continual clean cultivation has deprved the soil of its vegetable mold or humus until it has become more like cement than a pliable soil. The application of stable manure is probably the quickest way of restoring this factor to the soil. It is likewse the most expensive way. The turning under of green manuring crops seems to be solving the problem. The evidence of a majority of our contributors this week shows that the mechanical condition of the soil has been vastly improved by this means. One or two have found insufficient results, and one has found green manuring of no value, but allows the crops to mature on the land and dry up before turning under the next year.

## Nodules

OUR special articles this week would hardly be complete without some reference to the nodules or root tubercles which are sought for. These ndules are often wrongly considered to ccntain the nitrogen gathered by the bacteria which inhabit them. This is true to a limited extent, but it must be borne in mind that the plant has also absorbed a vast amount of nitrogen from these organisms and appropriated it to its own use. Therefore, the nitrogen which has been gathered may be in the roots or in the branches of the legume. These little living organism seem to have decided preferences as to the host plant which they will occupy. They are only known to inhabit legumes, and not all of them. Also, those that have inhabited one branch of the legume family do not care to use plants of another branch for their hosts. Therefore, where inoculation of soil or seed is desired, it must be brne in mind that the soil must be secured from a field where the same plant has been grown before, or if the purse cultures are used, from the Department at Washington or from dealers, being sure to specify the particular seed which is to be planted.

It is a notable fact that these nodules—and consequent nitrogen gathering capacity of the plant—are far greater in soil poor in nitrogen than in one that is abundantly supplied with this element. They are almost invariably larger on the poorer soil than on the richer.

## Quality of Fruit.

A QUESTION of much interest to the orchardist—at least we have heard it propounded—is: "Will growing of green manure crop and lack of clean cultivation have any effect upon the quality of shipping condition of the fruit?" This query was referred to G. Harold Powell, Pomologist in charge of field investigations. It is well known that Mr. Powell has accomplished a world of good for the citrus shippers of California, but it seems from his letter that he has made no particular investigations along this line. Mr. Powell writes:

"I am sorry that I cannot help you in regard to the effect of cover crops upon the quality of fruit. While I have seen a good deal of this treatment in orchards and have had some 20 years experience with it in our apple orchards in New York, I am not prepared to say what effect cultural conditions have upon the quality, or keeping quality, of fruits.

"We have made a study of the influence of some of the cultural conditions on the keeping quality of apples, but have not carried it far enough to express an opinion upon it. I am sorry that I cannot give you more information along this line, but I do not like to guess at a subject unless I know something about it."

## How to Plant.

THE GREAT majority of the contributors seem to prefer drilling as a method of planting. Broadcasting in some cases gives good results. but where there may be at any time a shortage of moisture, we believe there is no question that drilling will give far better results. Fertilizer drills are sometimes used to sow the seed, but, especially with peas, this would not prove very satisfactory. If commercial fertilizers are to be used with the crop, they should be sown before the seed. This will increase the growth of the green crop, thus giving a greater amount of humus and the fertilizer will be returned to the soil for the use of permanent crop. Irrigate and make as perfect a seed bed as possible. After planting leave ground so that growing crop may be irrigated. That is the only safe way for assurance of a heavy tonnage to plow under.

## Cost of Seed.

IT IS reported that the vetch seed growers of Washington and Oregon have become wise to the fact that California fruit growers have long purses, and they have perfected an organization which is maintaining a most effective corner on the seed. The price is some two cents per pound higher than last year, but while this makes less than a dollar per acre increase in the cost, it is causing some of our growers to rebel. We notice that a recent Portland Oregonian says: "The Lane County Vetch Growers' Association has sold its pool of vetch for $2.50 per bushel. The pool amounts to 3500 sacks, or 7000 bushels. This is the best price yet received for vetch and growers are greatly pleased at their first effort in pooling issues."

The price now prevailing in Los Angeles for seed is: Vetch, $5.50; Canadian peas, $3.75; fenugreek, $10.00 per hundred pounds. The amount required varies with different planters, but as ordinarily planted in orchards, which means of course that the entire land is not covered, the following are the approximate figures: Fenugreek, 16 pounds per acre; peas, 60 pounds per acre; vetch, 40 pounds per acre.

## Report of Cover Crops.

DESIRING as much information as possible on the line of green manuring crops we wrote to the chief of the bureau of plant industry at Washington for any information which the department might have, and received reply from C. V. Piper, Agrostologist, that special attention was being given to this subject by Mr. Roland McKee who is in direct charge of the cover crop green manure experiments in California. Mr. Piper stated that Mr. McKee has a bulletin now ready for the press which will soon be issued. Later Mr. McKee wrote us that the bulletin will be soon available. This bulletin will be watched for with much interest by all orchardists and vineyardists.

# Agricultural News Notes of the Pacific Coast

## Northern California

Chico farmers have organized a local union.

Gridley producers have formed a farmers union.

A farmers union local has been organized at Gridley.

Yuba City dried fruit plant began on figs the first of the month.

Farmers of Tehama have united and will build an alfalfa mill.

Anthrax has carried off 200 cattle on four ranches in Solano county.

The sugar beet harvest began in Yolo county last week. The yield is heavy.

A large hop producing concern at Gridley had a strike on its hands last week.

A Humboldt county dairyman has been securing a number of high bred Guernseys.

A large picking force began work in the hop yards near Chico the first of the month.

A San Francisco dealer has been found attempting to sell oleomargarine as butter.

"Lake County Mountain Fruit" is the brand under which pears from Lakeport are shipped.

The grain dealers have, as a rule, refused to pay the prices which farmers demand for wheat.

Shasta county's prune crop will bring to that country nearly a quarter of a million dollars.

Petaluma has a new brooder which it is said can be operated with much less fuel than the old style.

Anderson, Shasta county, says it has the finest crop of Bartlett pears ever produced in the Valley.

Close estimates of the Butte county orange crop indicate a very light yield, but the fruit will be large.

The sugar beet harvest at Woodland, Yolo Co., has been seriously interferred with on account of shortage of labor.

A ton of tree seed has been gathered in the various forest reserves to be used next year in more extensive forest tree planting.

The largest shipment of wool ever made out of Humboldt county, was last week when 400 bales went to one Boston firm.

The largest shipment of eggs ever sent out of Petaluma was on August 28th when 82,900 eggs packed in 2,200 cases of 36 dozen each, went to Alaska.

One of the vegetable curiosities of the world is growing at Sims, Shasta county. It is the "pitcher" plant which has the faculty of trapping and devouring insects.

A river improvement association has been formed at Rio Vista, Solano Co., and $80,000 has been subscribed, for the purpose of improving the outlet of the San Joaquin and Sacramento rivers.

The olive crop at Oroville, Butte Co., will be larger than usual this year and efforts are being made to have a large curing plant at which an expert shall be in charge of the pickling.

## Central California

The Corcoran sugar factory has been closed for the season.

Raisin grape picking will start later this year than usual.

Kern county's agricultural fair is holding its second annual exposition this week.

Fresno county produces more olives than any other county in the San Joaquin Valley.

A Kern county apple grower exhibits at the fair at Bakersfield apples 15⅜ inches in diameter.

San Jose holds a fancy horse show this week. Several hundred horses of all grades have been entered.

Many of the pepper trees of the Santa Clara Valley are reported to be dying from some strange disease.

It is predicted that Lodi grape growers will build a number of independent wineries for handling the output of Lodi vineyards.

The Pacific Sugar Co. is now working 100 employes. The factory expects to put out from 70,000 to 80,000 sacks this season.

The California Fruit Canners Association reports the demand for canned fruits excellent and heavy shipments being made East.

Some Woodland grape growers are preparing to feed their grapes to hogs rather than accept the five dollars a ton price which the wineries are offering.

The San Benito Valley hay crop is now said to be somewhat smaller than anticipated earlier, and the warehouses will contain practically the entire crop.

Two crops of Turkish tobacco have been grown near Exeter and promise is made that the future will see it a material factor in the agricultural products of that section.

Some members of the farmers union at Hanford Kings Co., have withdrawn because of lack of interest among many other fruit growers in co-operative marketing methods.

A proposition has been made that a floating exposition of California's industries be planned for the year of the canal opening, the Exposition to visit not only eastern ports of the continent, but foreign countries.

Definite announcement is made by the California Wine Association that the price for wine grapes will be five dollars per ton, payments to be made in two installments, the first on the 15th of December, the second on the fifteenth of the following March.

The shipping of green fruit is not exclusively the heritage of the orange growers. We note the Pajaronian is calling down the apple shippers of the Pajaro Valley and begging them to refrain from sending out green bellefleurs and Newtown pippins.

Orchardists near Madera report the latest fake in the man who visits a place representing that he has been sent out by the state to examine trees for scale and diseases. This fellow is followed by another who is "sent" to treat the trees and collect the costs.

## Southern California

Chino has a new barley crushing mill.

Riverside has shipped 5300 cars of oranges.

The Santa Ana sugar factory is running 600 tons of beets per day.

Little Rock in the Antelope Valley has shipped its record crop of Bartlett pears.

Highland, San Bernardino county, shipped about 2038 cars of oranges during the past season.

A rancher at Banning, San Bernardino county, has baled 1800 tons of hay from 600 acres.

Some experimental plats of the long fibered Egyptian cotton are now growing near Brawley.

A recently invented beet topping machine has been tested at Oxnard and declared to be a success.

Chief Forester, Gifford Pinchot, recently visited some of the forest reserves of Southern California.

San Diego county fair is on at Escondido this week. Today is the principal day with its grape festival.

An olive grower in the foothills near Orange has found his olive crop exceedingly profitable for the past few years.

The big Bear Valley reservoir is still full to the brim and it is now thought that it will remain full until the end of the irrigating season.

The bean growers of Smeltzer, Orange county, held a meeting last Saturday and organized an association to co-operate with the Ventura people.

Several stalks of recently imported mammoth bamboo from Japan, planted at El Centro, have failed to root, and others have been ordered for another trial.

It is announced that the Yuma Indian reservation lying within Imperial county and embracing about 17,000 acres, will be thrown open to entry next month.

The Oxnard sugar factory is making a record run this season. It is now slicing about 2200 tons of beets every day, which is 200 tons more than the official capacity of the plant.

White scale has appeared in some of the orchards of San Fernando Valley, and some are concerned regarding the outcome, but we doubt not a colony of vedalia will solve the problem.

San Bernardino County Fruit Exchange shipped for its members 850 cars of navels which averaged $1.51 per box f.o.b. This will net to the grower above packing charges about $1.65 per hundred pounds.

In spite of much smaller crop and expectations of proper remuneration, the melon growers of Imperial Valley find on complete returns and payment of expenses that the year has been anything but a profitable one.

A San Fernando bee man is suggesting the formation of a large corporation which shall take over the apiaries of the state, maintaining that a much better distribution and better returns could be secured for the producers.

## The Coast

Seattle recently received 73 cars of wheat in three days.

Wenatchee, Wash., is planning for a better road system.

Oregon's wool output this year will net the state about $4,000,000.

The judges for the coming National Apple Show at Spokane have been chosen.

Many farmers near Palouse, Washington, have averaged 45 bushels of wheat per acre.

More than 70,000 bushels of wheat have been delivered at the Nez Perce, Idaho, warehouses.

A new wheat introduced at Pullman, Washington, makes a record of 75 bushels per acre.

Asotin and Whitman county, Washington, wheat growers are declining to sell at less than $1.00 per bushel.

The Yakima Valley, Washington, prune output will be about 90 cars, which is practically the same as that of 1908.

Owing to scarcity of forage in some of the forest reserves of New Mexico, cattle have eaten the leaves of the scrub oak and many have died.

Much damage was done by the recent storms in southern Arizona, not only in destroying hay but doing great damage to the irrigation systems.

Arrangements are being made by the State Horticultural Association of Washington, for its next meeting at Wenatchee about the end of December.

Poultry fanciers at Spokane, Washington, have organized the Inland Empire Poultry and Pet Stock Association and will hold their first show January 11th to 15th.

Expert buyers who have traveled over Washington and Oregon report that the output of wheat this year will be 65,000 bushels, which is 25 percent greater than ever produced before.

Owners of water rights under the Sunnyside Canal near North Yakima, Washington, have preferred charges against the manager, and Secretary Ballinger promises to give thorough investigation.

All the states of the arid west excepting California, Washington, Arizona, and Montana have adopted codes which have proved of great value in controlling the use of waters of those states.

Various co-operative farmers associations in the Inland Empire of Eastern Washington are considering the advisability of uniting the management of some 200 grain warehouses under one director.

Officials in charge of the forest reserves in Arizona have confiscated several hundred cords of wood which had been cut from green standing timber. Permission had been given for the cutting of dry and dead wood.

The Portland Oregonian says that a commission merchant of Woodburn, Oregon, controls the vetch market of Oregon and California. Vetch growers the state over are in high glee over prices they are commanding this year.

**FOR MOULTING HENS**

**Feed**

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## Poultry Food No. 4

***$1.95 per Sack***

Midland moulting food is a balanced ration for the moulting hen and is absolutely the best food to feed for eggs and feathers. By feeding No. 4 now you bring your flock through the moult in good condition, which insures eggs when the market is high.

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Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

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**For Eggs Next Fall Feed Now**

# West Coast Egg Food

Don't make the common mistake of supposing that you can let the fowls get all run down before or during molting and then bring them up by heavy feeding later. You won't get eggs that way. They must be kept in good condition and fed feather producing and egg making food. We know how to make rightly balanced rations for such purposes. That is our business, and we have the best equipped mill for doing it, or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg Food, as good as anybody can make, by using

# EGG MORE

and you will get no unsound grain, no mill refuse and such stuffs, as are in many concoctions called Egg Food. Egg-More is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs if you feed it just a little each day. 25 lb. sack, $1.90; 50 lbs., $3.60; 100 lbs., $7.00. If not kept by your dealer we will prepay freight within 300 miles.

**West Coast Mill**

**Cor. Griffin and Alhambra, Los Angeles**

***MRS. C. D. HUBBARD'S*** ***WHITE WYANDOTTES***

Eggs for hatching September 1st '09. Write for circular.

***BOX 60, ROUTE NO. 1*** ***SAN FERNANDO CAL***

# Profit in the Poultry Yard

We solicit short articles of a practical nature from the farmer and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

## CLEANLINESS ABSOLUTELY NECESSARY.

CLEANLINESS is the most important consideration in poultry raising no matter whether the flock is large or small, fancy or mongrel. It matters not how carefully the breeders are selected or how well the ration is balanced, failure is certain if houses and yards are not kept in sanitary condition. It would seem as if this lesson should have been thoroughly learned, at least by those who depend upon poultry raising for a living.

Since the establishment of the first poultry journal cleanliness has been preached until it ought not to be necessary to harp upn it any longer, yet a trip of inspection will show many yards where cleanliness seems to be a secondary consideration. While this to some extent applies to professional poultrymen, it is more particularly applicable to the hundreds of small farm and village flocks, not one-fourth of which receive the attention they should have to make them profitable. This is due to the fact that the average farm or village flock is regarded merely as a source of supply for the table and occasional pin money for the housewife. Even at that they would well repay one for careful attention, but many are too short-sighted to see it.

To keep it in perfect sanitary condition the poultry house must be conveniently arranged. Walls ought to be tight not only for warmth but to afford as few hiding places for lice as possible. For a house built of rough, uneven boards, a lining of tar paper is advisable.

It has been my experience that dirt floors are better than any other if properly made. They are more easily cleaned than board floors, warmer, drier, and better in every way. The floor must be several inches higher than the ground outside, and good under-drainage is essential. An excellent plan is to excavate ten or twelve inches below the surface and fill in with coarse gravel. On top of that put a layer of finer gravel, cover it with sand or dry earth, then pack tightly by tamping. Cover the floor with cut straw to the depth of eight inches. With a properly built dropping platform beneath the roosts the straw need not be changed oftener than once in two weeks, though once a week is best.

Board floors are apt to be damp and require more attention than dirt floors. A six inch layer of sand or dry earth on them makes cleaning easier.

Droppings ought to be removed from the poultry house not less than twice a week. It is much better and entails little more work to remove them daily. Only a few minutes are required each morning and the droppings are not left to be scattered about or to ferment and spread disease. I have seen in many farm poultry houses droppings scraped in piles at one end of the house and left to contaminate the air. Often, too, the poultry house is made a sort of catch-all for all sorts of rubbish. Old shoes, bits of lumber and other refuse are tossed on the heap, making a hiding place for rats and a breeding place for innumerable vermin.

No matter how clean the houses are kept otherwise don't neglect to oil the roosts quite frequently, coating them thoroughly all over. Any good commercial lice paint may be used or a mixture of kerosene and carbolic acid is as good. Use insect powder freely in the nests and see that the straw is changed every week. Use whitewash freely, spraying it into every crack and corner.

During the summer months I always keep several dust baths handy in various parts of the poultry yard, but it is necessary to have one inside the house for rainy weather and through the winter. If there is a scratching shed connected with the house it is a convenient location for the dust bath, but no matter how limited the space, have one somewhere. It is indispensable for the cleanliness and health of the fowls.

Not only the house and its furnishings but the yard, as well, must receive careful attention. Of first importance is location, for a yard without good drainage cannot be kept in sanitary condition. Sometimes a yard must be located on ground not naturally well drained, in which case it must be tile drained if one is to have a decent yard. An orchard on moderately sloping ground, preferably sloping south or east, is an excellent location. But if an orchard is selected, don't do as I have seen many farmers do. When the apple trees were pruned the brush was piled in heaps about the yard and left to become a hiding place for rats.

With the approach of warm weather we must give the feed troughs and drinking fountains more attention than has been necessary through the winter. Particles of food left in the troughs soon become sour in warm weather and if then eaten by the fowls may cause serious bowel troubles. The drinking vessels will require frequent cleaning and refilling.

It is no easy matter to attend to the thousand and one things that are to be done about the yard. Cleanliness means constant watchfulness and lots of work, but it cannot be neglected if one is to succeed, but for those who really like the work and go at it conscientiously and intelligently, there are ample rewards.—Successful Poultry Journal.

## POULTRY QUERIES.

### Dry Feed Hopper.

Please give instructions for making dry feed hopper.—C. L. K.

We reprint from issue of February 14, 1907, a couple of engravings which

FIG 1

show plainly the construction. These may be made from packing boxes very cheaply.

The fowls can eat from both sides of this hopper, as will be seen from the dotted lines. It is made from a cracker box and holds nearly two pails of ground feed.

Another plan which allows birds to eat from only one side but permits various kinds of feed is as follows:

FIG 2

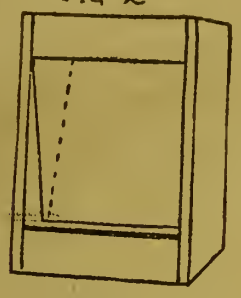
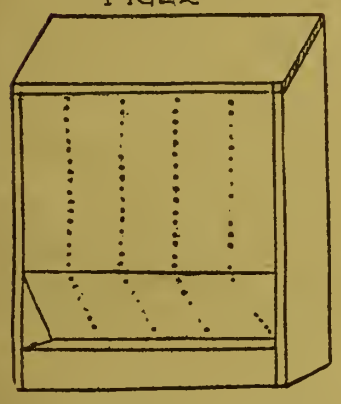


FIG-2



The above front view shows five inside divisions in which is placed the different foods. The hopper can be made with or without these, the size depending upon the size of the flock and the frequency of feeding. The trough into which the feed falls should be three inches deep and should have a beading on the edge an inch and a half wide to prevent the feed from being scattered out.

Cross sticks may be placed over place when feed falls down so fowls may not scratch out and waste the feed.

Set the hopper on a bench or shelf in the poultry house in such a way that the fowls cannot scratch straw or dirt into it.

Another formerly shown in issue of August 29, 1907.

To make a feeder take a board ten inches wide; from this cut one piece two feet long for bottom, two pieces 18 inches long for ends and support for roof. Nail bottom to end of boards four inches from end; now saw long end, shape of letter A. Take two pieces of ten inches wide and thirty inches long, nail in shape of trough or V, turn this upside down over A-shaped ends for roof; now take two pieces four inches by two feet, nail on for sides and your feeder is ready.

We give as our model the two-foot length but it can be made any length desired. A partition can be put in if desired for different kinds of food, grit, charcoal etc.

### DOUGLASS MIXTURE.

We have had numerous inquiries of late for a recipe for making Douglass Mixture. This is a preparation of iron. Mix one ounce of sulphuric acid in two gallons of water. Add to this one-half pound sulphate of iron, known as copperas. When all is thoroughly dissolved and well mixed together use one tablespoonful of Douglass Mixture to each pint of drinking water for the fowls or pigeons.

We have also been asked to give the recipe for saffron tea. Saffron tea is made from yellow saffron, sold at the drug stores, commonly used to make tea for children who have measles. To make saffron tea you use saffron and water in about the same proportions as you would in making ordinary tea. After boiling thoroughly strain through a rag and use by mixing a little in the drinking water of pigeons when needed as a tonic.—The Feather.

---

It is a well known fact that lice breed much faster in filthy quarters, so it behooves every poultryman to clean the houses thoroughly at once, and to keep them clean. Whitewash thoroughly, use some good insecticide around the nests, roosts, dropping boards and in all the corners and crevices and cracks, and the battle against these pests is more than half won.

---

Dry ashes scattered over the roosts and dropping boards every day or so, and a good spray of coal oil once a week, is a cheap but effective means of keeping lice and mites under control.


**GEESE**

***Toulouse Embden***

Prize winning stock never beaten at any poultry show.

***$1.50 Per Setting***

Fine Toulouse Ganders for sale at $4.00 each.

Send your order at once for the best stock in the west.

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Obtain it from your dealer, or order direct.

SULLIVANS' "Commonwealth Strain" **Buff Orpingtons**

We win more prizes on Pacific Coast at leading shows than ALL COMPETITORS COMBINED. This season; 40 regular prize ribbons, 15 SPECIAL ribbons, and 9 SILVER CUPS. Free Catalogue, stock and eggs for sale. Eggs $2.00 and up. Stock, $2.50 and up.

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GARDEN VALLEY POULTRY YARDS
5 minutes from depot. Agnew; Cal.
State V. P. Nat. S. C. B O. Club fof Cal.

**Coulson's**

**EGG FOOD**

At this time of year the hens are apt to begin falliug off in their laying, and it is necessary for poultrymen to keep them up as long as possible. If they stop laying too early and start molting, they are likely either to take a long time over the molt, or if they molt quickly to have another molt in the late fall.

A scientifically prepared Poultry Food like COULSON'S EGG FOOD, fed at this time will help greatly to keep the hens laying up to and well into their molting time, with consequent satisfactory profit to their owners.

Remember that all egg foods are by no means alike, and it is advisable for you to buy a brand that has stood the test of time.

COULSON'S EGG FOOD is therefore what you want to give you RESULTS, and keep your flock in healthy condition for the molt.

For sale by dealers everywhere. Write for our free book "Poultry Feeding for Profit" with samples of our Poultry Food.

**Coulson Poultry & Stock Food Co.**

**Petaluma, California**

GERMAIN SEED CO., Los Angeles
Distributing Agents for Southern Cal.

**DARLING'S HIGH PROTEIN BEEF SCRAPS**

As sole agents for Southern California for the above well-known brand of beef scraps we are pleased to be in a position again to supply same, the manufacturers having rebuilt their plant which was destroyed by fire some time ago. The quality of these scraps is so well known that no description is necessary. We have three cars about to arrive. Place your orders early as the supply never equals the demand.

**Germain Seed & Plant Co.**

**326-330 So. Main St., Los Angeles**

***SEED GRAIN*** ***BLACK AND RED OATS, WHEAT, BARLEY. BEAN SCREENINGS***

for Stock and Poultry. For sale at lowest market rates. ***BRAY BROTHERS*** Buyers of Grain and Beans. Members of Merchants Exchange ***220 Clay St., San Francisco***
Established in 1855. Correspondence Invited

# Melilotus Clover

**the Great Cover Crop**

For information and price, write

**Edward L. Koethen, Riverside, Cal.**

# CALIFORNIA

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### GREEN MANURE CROPS.

(Continued from Page 251.)

until the rains take the place of irrigation. The furrows are made immediately after sowing and left open.

7. Date of planting depends upon time of irrigation. From August 25th to October 1st is best.

8. The manure crop does not in the least interfere with orchard operations.

9. I prefer to plow with a good disk plow and have no difficulty in covering the green crop all up. We begin plowing early in January, and aim to have the orchards clean and in good tilth by March 1st. We plow when it ought be done, irrespective of the condition of the crop. That is why we sow so early. I had peas and burr clover three feet high in January last year. If not practicable to get over the ground fast enough with a plow, we disk and break it, and then plow at leisure. In order to get a good job of plowing, the surface must not be dry.

10. I do not harrow until the rains cease. I leave the surface rough during the wet season. Thus it takes in more water and washing is prevented. The whole mass of green material will decay in four weeks if the soil is damp enough.

11. I have no way of estimating tonnage.

12. The cover crop has given life to my soil and increased its water holding capacity to an astonishing degree. The soil is more friable, and the question of hardpan or plowsole is entirely solved in my soils.

**Horace G. Keesling, San Jose, Santa Clara County.**

The subject of green manuring or cover crops is very interesting to me, and I will be glad to read the letters from those who will write for the Cultivator.

Very little attention has been given to this matter in this country except an increasing habit among fruit growers of letting the natural winter growth get well grown before plowing.

I know of no one who has made a practice of sowing seeds for the purpose of raising green manure crops.

My next neighbor Mr. J. A. Harris has sown some kind of peas in his cherry orchard and they are now up and growing nicely. I think that this is his first experience.

**A. G. Schulz, Porterville, Tulare Co.**

We have not done much green manuring in this locality, and so I have not had much experience in this matter. You know that we get into our orchards the last of October and pick until the middle of December, so whatever green crop we have in the orchards, is pretty tramped by that time. I am therefore not in a position to help you out on this matter, but will be very anxiously looking for the September number to see what others have to say. We are trying to work into the green manuring proposition, and are looking for information along this line, and of course are very much interested in your efforts to disseminate this knowledge.

**Gerald Geraldson, Newcastle, Placer County.**

I used to believe in green manuring. My father practiced it on this orchard forty years ago, and I took up the work where he left it and plowed under green grass year after year until the soil finally rebelled, went on a strike, and declined to produce any more grass to plow under. Where first the natural crop of grass grew twenty inches high now it grew two inches. Where formerly the trees bore large crops of good fruit they now bore but light crops of very poor fruit.

The process of deterioration had been going on from the first; I recognized it vaguely but thought that I was doing all anyone could by plowing under the spring crop of green grass, keeping the "pesky weeds" out of sight, hauling all the manure I could get and putting on some chemical fertilizer now and then for good measure.

I took it for granted that the soil must eventually wear out, for did not the authorities, and the neighbors say so? And did not soil in other places wear out? Was not the older East sprinkled with abandoned farms, which must have worn out.

As the land became more and more like Portland cement in its baking proclivities, more and more like desert sand in its washing tendencies, and more and more like rock in its capacity to absorb and hold water and to grow further crops of grass to be plowed under green, I became alarmed. Being naturally of a skeptical and irreverent turn of mind I began to question whether or not the authorities and the neighbors might not, after all, be at fault; and whether, after all, the advantages of the sacred system of clean annual cultivation might not be more imaginary than real.

Upon looking about me I observed that in detached fence corners which were neither plowed nor pastured, the grass grew rank and ever more rank and the soil was "rich" and "mellow" to a degree that made that in the orchards look like a bed of clinkers.

I observed that in the forests, where Nature was managing matters, there was a continual depositing of leaves,


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twigs, bark, cones, shells; that the soil was "rich" and "mellow" and was evidently getting no poorer as the years rolled on.

But, had I not put into the soil hundreds, yes thousands, of tons of vegetation; in addition, had I not plowed and worked the soil, which the authorities and the neighbors said was good; and had I not manured it and chemical fertilized it? And still it had gone bad on me.

Then I examined the much plowed soil and found it dry and harsh, mostly little stones like grains of sand cemented together by other little stones still finer, into clods as hard as brick and about as fertile.

Then I examined the soil in the fence corners and in the forest and found that it was soft and mellow and that there was a large percentage of some soft dark substance mixed with the little rocks which effectually nullified their tendency to cement together in clods, and which, combining with them formed a soil which would retain large quantities of water and in which anything that I tried would grow readily.

Then I learned that this soft dark substance was "humus"; that it is the all important factor in any soil; and, greatest and most important of all that it is always and everywhere and under all circumstances made from matured vegetation. Never, anywhere, does Nature attempt to make it of green vegetation.

And Nature is a pretty dependable guide.

Here a great light dawned upon me and I saw that for all these years I had been trying to make humus out of water; that, in plowing under all these crops of green grass I had thwarted Nature in her efforts to make soil and had destroyed, yes utterly wasted, crop after crop of green grass with which she had intended to make humus for me.

I found that green grass is about 95 per cent. water while matured vegetation of any kind not only deposits more of any chemical element it has, than the green form, but it also contains many times more cellulose, perhaps fifty times more, and cellulose is what humus is made of.

Our system of clean annual cultivation had absolutely stopped Nature's process of making humus; had used up, wasted, worn out and otherwise destroyed that formerly in the soil, and was fast making the soil incapable of producing any more.

Nature always keeps the soil covered to prevent wash and to hold moisture. Our enlightened system makes conditions perfect for unlimited wash, both by rain and irrigating water and that is where most of the humus goes.

The stable manure we had used was the only redeeming feature of our miserable experience. It contained matured vegetation which made humus, but it was only a handful and could not stem the tide of waste we had encouraged by use of the plows.

Out of suffering comes wisdom. Out of ours came a remedy; not a makeshift, but a real, bona fide, practical, and absolutely sound remedy. We simply adopted the plan of plowing alternate "middles" in our orchard on alternate years, across the flow of the rain and irrigating water.

This plan allows half of each year's crop of grass to ripen and mature and deposit seed. It prevents wash and does good, in various other ways, to the soil.

Whereas, eight years ago, when we adopted this plan we had two inches of grass, we now have from two to six feet. Whereas, then, our soil was like Portland cement after being wet, now it is like that in the fence corner. Whereas then our trees were chronically hungry and thirsty and bore small crops of poor fruit, now they bear large crops of good fruit and appear sleek and well fed. Whereas then we irrigated weekly with poor results, now we irrigate at intervals of two weeks and more with good results. We use no more stable manure than formerly and no chemical fertilizers.

Next to that of the proper distribution of wealth this is the most important question confronting the civilized world today. Soil waste from cultivated areas is causing the world incalculable loss. Nothing but new areas has kept us solvent thus far. If our present barbarous social system and our present barbarous agricultural system endure another fifty years the world will be utterly bankrupt.

The over cutting of our forest areas, the over grazing of our pasture areas and the over plowing of our cultivated areas are all one and the same thing and are all wanton, criminal and idiotic waste. They all remove from the soil too much of Nature's covering.

With Nature's covering conserved the forest areas will produce infinitely more than they will as managed at present; the pasture areas will produce infinitely more and so will the farming areas.

Nature is not so wanting in resource as to let soil wear out. Her way is to get crops and at the same time have the soil get better and better for ever. The question is: Have we the brains to imitate her?

Talk of over population is absurd. Under a sane civilization and a sane system of handling the soil, this earth could support one thousand times its present population, aye more.

### THE PRINCIPAL POINTS.

Use a deep rooting plant if possible.

Vetches seem to be preferred though Canadian field peas are a close second.

Many prefer to precede the sowing of the green manure crop by drilling in either a complete fertilizer or one rich in phosphoric acid.

Ground should be left so it can be irrigated in case rains are not frequent enough.

Sow early and plow under early. In any case use the winter crop, then if abundance of water permits, a summer growing crop may also be advisable.

If seed for leguminous crop proves too scarce or too high priced this year, rye or barley will surely add humus, if they are not nitrogen gatherers.

The general preference seems to be to plow under when plants are in bloom if possible.

On account of its deep rooting, many consider alfalfa of greater value than any other crop tried.

The ground should be thoroughly irrigated before seeding, and a good seed bed should be made. A little extra work at this time will add largely to the tonnage

The disk seems to be preferred as a means of getting the crop under.

Besides addition of humus and fertility, one of the points made is that "The roots create good channels for the rain to penetrate deeper into the soil.

"The question of hardpan or plowsole is entirely solved since I began green manuring."


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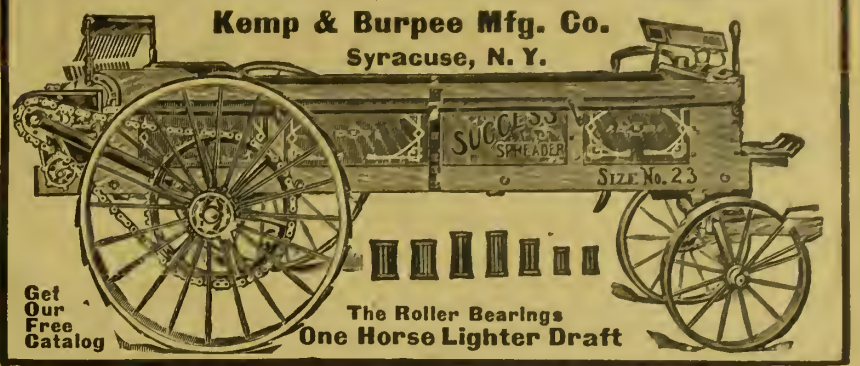


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**FROM the EAST VIA SALT LAKE ROUTE**

# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Dairy Supplies.

I have a fine milking and dairy cow but a very hard milker. The trouble seems to be in tightness at the end of the teats. Can I successfully dilate the teats so that they can be milked easily without using a plug or dilator at each milking time? Where can I secure the instruments necessary? Also where can I get metal ear tags? What should I plant with the first rains in order to get earliest and best feed for cows?—W.

Write O. J. Webber Co., Los Angeles, for instruments and instructions. They also have the ear tags. Cow peas, Canadian field peas, barley and rye, all make good winter feed for stock.

### Arabian Alfalfa.

Having seen statements in your paper regarding the desirability of Arabian alfalfa, I wish to inquire if it will be the best variety in the Turlock section. Where can the seed be secured, and at what cost?—L. P. R., Waterford.

Arabian alfalfa would doubtless be most desirable for the Turlock section. The only trouble is inability to secure seed. It will probably cost double that of ordinary alfalfa. As soon as seed can be located, we will inform our readers.

### Silo.

Where lumber is scarce, can a hole dug in dry ground be utilized for a silo? If not, kindly give directions for building a cheap silo.—Subscriber, Guernsey.

The early silos away back in the 14th century were holes in the ground, but as these were gradually abandoned for the above ground silo, it is reasonable to suppose that the over top silo was superior enough to pay for itself. The sugar beet pulp was at first put into holes, but now it too is put into long racks on the ground, sided up eight or ten feet high. The objection to the silo in the ground is that it is not drained, but the moisture not only from the silage, but from the ground would be retained, unless there was some way of making it dry. The cheapest way to make a silo is either to get the lumber already cut for the silo and the entire silo in the knock down from a company that makes it a business to supply them. The other alternative would be to get the iron rods and build one out of concrete using cement mixed with gravel and small cobbles. Wherever a wash is near by it is possible to do this cheaply enough to be practical. Write to the Department of Agriculture at Washington for Farmers Bulletin on Silos.

### Soft Brown Scale.

I am sending by mail leaves of lemon tree affected with some form of scale. Please advise me what variety it is and what solution would be best to spray with. Would like to say that we appreciate what the Cultivator is doing and find it invaluable in the home.—V. B., Carpinteria.

The scale on leaf enclosed in letter from Carpinteria is according to "Fernald's Coccidae of the world," Coccus longulus. The old name of this scale was Lecanium longulum. Its habits are similar to Coccus hesperidum or as it is commonly called soft brown orange scale.

The remedy which I usually recommend, (as it is usually only on a limited number of trees) is whale oil soap, 12 ounces dissolved in one gallon of water; apply twice ten days apart.—S. A. Pease, San Bernardino.

### Frost Protection for Young Trees.

What is the best protection for young trees against frost? Are corn stalks as good as the frame covered with tar paper to be removed during warm weather, or is a small lath house set over the tree better? The orchard is a small one and expense no object.—J. Allen Osmun, Rivera.

The covered frame would be preferable. It need not have a top, for if the sides are protected against the sweep of the air, it seems to hold a body of warm air around the plant so that no injury comes to it. The writer had experience with a citron forwarded by the department at Washington, which he wished to be sure would carry through the winter. A headless barrel was dropped over the plant and removed, as suggested by the inquirer, at times when the weather was so warm that no injury could result to the young plant. An extremely hard frost came, and while the top projecting above the barrel was nipped severely, the leaves under a line even with the ends of the staves, were uninjured. We would prefer this to the lath cover, although we presume that would be sufficient. Corn stalks are very satisfactory in protecting the trunk, but of course the leaves which project beyond the wrapping will be nipped. This is the most economical method, especially in large commercial orchard.

### Feijoa Sellowiana.

The article appearing a few weeks ago in the ornamental garden department of the Cultivator in regard to a desirable new plant, feijoa sellowiana, has brought many queries as to where it may be secured. Dr. Franceschi of Santa Barbara writes us that this plant was introduced by him a few years ago. He says: "Regarding its hardiness, I have not the least doubt that it will be perfectly hardy all over California. In South America, where it is a native, it appears to have a rather wide distribution, namely from the State of San Paulo in Brazil down to Argentina and Urnguay.

Good plants, from 3½ inch pots can be furnished by the Montarioso Nursery, Santa Barbara, of which my daughter Miss E. F. Franceschi is now the proprietor. These are one year seedlings from the specimen at Montarioso, one of the original plants imported by myself some years ago, from Southern France, where it had been introduced from Montevideo by the well known traveller and Landscape Architect Edouard Andre."

Mr. C. P. Taft of Orange, also writes that he has fine plants for sale.

### Sorghum.

I would like to know if sorghum is good feed for cows, and the best way to feed it. Is there any danger in the seed?—Subscriber, Phoenix, Arizona.

(Continued on Page 263.)


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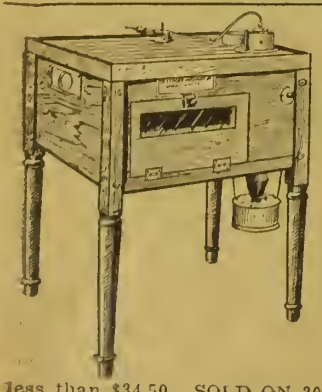

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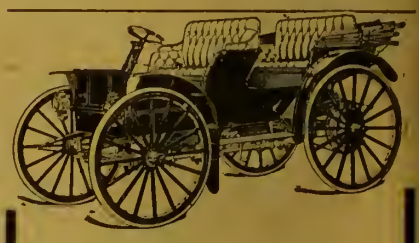

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# The State Fair

By John Isaac, Redwood City.

THE fifty-sixth annual state fair, which closed in Sacramento on the 4th, inst., was somewhat of a disappointment. This was probably due to the fact that the industrial portion of the display was held in the new buildings which are still unfinished and which gave an unfinished tone to the whole thing. The old pavilion on the Capitol grounds, in which these fairs have been held for so many years, has been torn down, and in its place three new buildings have been erected in the fair grounds. One of these is the agricultural building, one the manufactures building and the third is devoted to industrial displays. It is probable that the exhibits were fully up to those of previous years, but divided into three parts and exhibited in rough unfinished buildings, they did not impress the visitor as strongly as former exhibits have done.

**Opening Day.**

The fair was thrown open to the public on August 28, although the formal opening was delayed until the following Monday. Few exhibits were in place or finished, but by rushing work, the exhibitors had nearly everything in shape before the formal opening took place.

Sunday was a busy day, very many of the exhibits still remaining to be put in shape, while crowds of residents of Sacramento, whose daily labors prevented their attendance on other days, took advantage of the opportunity to be present. The feature of this day was a concert by a boys' band and a chorus of 150 voices from the Preston School of Industry. The performance was heartily encored and was the leading attraction of the day.

**County Exhibits.**

County exhibits were made by nine counties, Sacramento, Kern, Alameda, Los Angeles, Fresno, Sonoma, Contra Costa, Monterey, and Solano. All these, except Sacramento, which being the home county, kept out of the running, were entered for the prizes offered for the best county exhibit, carrying with it an award of $600. This award was made to Alameda by the judges, Los Angeles coming in a close second. Mr. Nichols, who has made a reputation as a decorator, was the artist to whom Alameda owed her victory, and certainly her exhibit was at once the most varied and the most artistically arranged in the building. Los Angeles' display was noticeably good, while in the line of fruits and agricultural products Sacramento easily stood at the head, but being out of the running no award was made her.

**Machinery.**

In the machinery building the most noticeable exhibits, and those which attracted most attention, were the irrigation plants. There were a number of these pumping streams of water which would have made a man wealthy could he have taken them to the south.

**Live Stock.**

The stock exhibit was larger than usual and more interest was taken in it. Aristocratic members of the cattle family were there from different parts of the Union, some contributions coming even from far-off New Hampshire, a herd of Dutch belted cattle being exhibited by F. R. Sanders, of Bristol, N. H. The stock parade, which was held on Tuesday, was organized by C. R. Paine, the manager of the live stock display. It was perhaps the best display of high bred horses and blooded stock ever brought together in one body in the state, and represented most of the favorite varieties. Among the horses were German coach horses, hackneys, carriage horses, Normans and Percherons. The cattle attracted as much attention as did the horses, and there were here a fine herd of shorthorns owned by Mrs. Glide. The Howard Cattle Company also had a herd of blooded short horns, while the Lomas Company showed short-horns, Herefords and Polled Angus. A. W. Morris displayed Holsteins. The Stanford University farm at Vina also had a herd of Holsteins; Geo. A. Smith, of Corcoran, N. H. Lock, of the Lockford Co., Guy H. Miller, of Modesto and J. E. Thorpe, of Stockton, were there with Jerseys. There was also a very excellent display of the different breeds of sheep and hogs with some good specimens of Angora goats. Taken altogether the exhibit of live stock was an exceptionally good one.

**Poultry.**

For the poultry exhibit, a new and commodious building has been erected and this was well filled early in the week. There was a larger and more varied display of poultry than usual, and hardly any known variety that was not there. The accommodations in the new building are much better than they could be in the old pavilion, the building is better lighted and the attractiveness of the ex-

(Continued on Page 263.)


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FOR SALE—A FIFTEEN-MONTHS-old male goat from Prince Bismark, an imported Swiss Toggenberg, and a Spanish doe, a good milker. Price, $10.00. L. C. LEA, Buena Park, Cal.

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HOME CANNING OUTFIT JUST LIKE factory canneries. As simple to operate as the open dishpan. When prices are low and fruit and vegetables are going to waste, save it all by canning and then you can hold for better prices. A book of instructions of how to can corn, peas, beans, etc., how to make and can all kinds fruits and jams, etc., goes with each outfit. Send your name so I can tell you all about it. M. HILTON SMITH, Alice, Texas.

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WANTED, 5,000 BLACK WALNUT AND 5,000 Santa Barbara Walnut trees, one and two years old, for grafting purposes, December delivery. WM. RICHARD, 438 River St., Santa Cruz, Cal.

FOR SALE OR EXCHANGE—A COMplete Architectural Course in the International Correspondence School. Can use cow, chickens, surrey or good farm implements. L. C. LEA, Buena Park, Cal.

EDISON PHONOGRAPHS. THE NEW kind, the best entertainers on earth. We deliver free. Ask for catalog, full line of records. COLUMBIA COMMERCIAL CO., 204 East 9th St., Los Angeles, Cal.

## FERTILIZERS.

SULPHATE OF POTASH
$60.00 per ton.

For a short time we will sell Sulphate of Potash at $60.00 per ton.

This is the right time to apply it for maturing the crop and the new growth of wood.

This price won't last. Get your supply now from the Armour agent in your district.

THE ARMOUR FERTILIZER WORKS, Los Angeles and Colton.

## ORANGE SEED BED STOCK.

FOR SALE—SOUR ORANGE SEED bed trees now ready for fall planting. I have a fine lot of Florida sour stock which is proof against gum disease and in great demand. Nursery stock planted September and October, or as late as November, make a root growth which will better withstand the hot weather usually following spring planting. W. H. HILYARD, Orange, Cal.

## SITUATIONS WANTED.

WANTED POSITION AS FOREMAN or to take charge of citrus orchard, by married man (no children) with best of references, copy can be seen at Cultivator office. Last employed for several years at Leffingwell's Rancho, Inc. Address G. H. M., R. F. D. No. 1, Box 106, East Whittier.

## HELP WANTED.

WANTED—EXPERIENCED MAN TO take contract to bud twenty-five thousand trees, must furnish reference. C. A. MYERS, 205 Grant Bldg., Los Angeles, Cal.

## POULTRY.

FOR SALE—FIFTY SELECTED THOROughbred Single Comb White Leghorn cockerels, price $1.00 and up. D. CLAYTON, Colusa, Cal.

PIT GAMES—SOUTHERN AND GRADE Japs. O. L. CRANE, Route 3, Santa Rosa, Cal.

## HARNESS.

THE MOST RELIABLE HARNESS manufacturers in San Francisco will make to your order any kind of harness you may want from the best stock, at wholesale rates, all goods guaranteed as represented, or money returned. We carry large stock of our make harness on hand for immediate shipment. Write for catalogue. LASTUFKA BROS. & CO., 1659-61 Market St., San Francisco, Cal.

## SHOPPING BY MAIL.

SHOPPING BY MAIL — PURCHASE through us. We do your shopping and look after your business matters in Los Angeles. Ask about our telegraphy course by mail. Instruments free. COLUMBIA COMMERCIAL COMPANY, 204 East 9th St., Los Angeles, Cal.

## STOCK FEED.

LIKE GREEN GRASS, SUGAR BEET Pulp makes cows give milk. Write LOS ALAMITOS SUGAR COMPANY, Los Alamitos, Cal.

## HOGS.

REGISTERED BERKSHIRE AND POland China hogs, both sexes. C. A STOWE, Stockton, Cal.

## FARM LANDS FOR SALE.

FOR SALE— RELINQUISHMENTS. Perfect agricultural land at Hinkley, San Bernardino County. Abundance of pure water at 12 to 20 feet; side of R. R. Station, postoffice and school. Ninety wells dug. One man investing $50,000. Lovely, easily worked soil. Land now selling at $5 to $25 an acre and rising. For more descriptive circular address undersigned or Box 297, Corona, Cal., or come out and see our fine, healthy country. If you write, we will meet you at train with rig. N. VIPOND, Hinkley, Cal.

IMPROVED AND UNIMPROVED ranches for sale, any sized acreage, in THE FAMOUS COACHELLA VALLEY. The earliest fruit and vegetable producing country known. Prices per acre reasonable, easy terms. For further information call on or write, WM. L. KEITH, Thermal, Cal.

EIGHT-ACRE RANCH, SANTA CRUZ city limits. Beautiful Marine View. Or will sell three or five acres. Would consider trade for good income alfalfa ranch. Address, BOX 16, Santa Cruz, Cal.

I MAKE A SPECIALTY OF ORANGE and alfalfa ranches and exchanges. 826 Main St., Room 9, Riverside, Cal. N. R. BELL.

## MACHINERY.

FOR SALE—10-FOOT STEEL AERmotor 40 ft. 4 legged tower, 5000 R. W. tank, pipe, pump complete $75; wood sawing outfit; 12-H. P. Fairbanks engine used 3 months $350; 10-ft. mill tower—3000 R. W. tank, 16 ft. stand, pipe and pump complete, $49 ready to haul, another without stand f. o. b. $39; Smith Premier Typewriter A. 1, $22; pipe, engines, farm machinery. Save you half, DEMMITT CO., 130 No Main, Los Angeles, Cal.

FOR SALE—AT A BARGAIN, COMplete pumping outfit, viz.—Fairbanks Morse 15-H. P. geared base pumping engine, practically new; one deep well pump, 7 inch Pomona Cylinder; 200 ft. of 7⅝ in. casing. Address, STUART WALCOTT, Carpinteria, Santa Barbara County, Cal.

FOR EXCHANGE—SEVERAL STEAM pumps. Good as new. Will sell at low prices. MACHINERY EXCHANGE, Main & Bruno Sts., Los Angeles, Cal.

FOR EXCHANGE—BELT DRIVEN air compressors—Several sizes. Never used. Bargains. MACHINERY EXCHANGE, Main & Bruno Sts., Los Angeles, Cal.

FOR SALE—RENT OR EXCHANGE, boilers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main St., Los Angeles, Cal.

FOR SALE—ALAMO GAS ENGINES. All sizes—Perfect service. Low prices. BAILIE & BRANDT COMPANY, 943 & 945 North Main St., Los Angeles, Cal.

FOR EXCHANGE—WE HAVE A number of small gas engines. Need the room. Will give you a bargain. BAILIE & BRANDT COMPANY, 943 & 945 North Main St., Los Angeles, Cal.

## TREES.

FOR SALE—1500 EUREKA LEMONS, 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. B. WARNER, Santa Ana, Cal.

FOR SALE—ABOUT 250 VALENCIA orange trees. Will sell in ground at right prices. Come and see them. M. E. DILLINGHAM, San Gabriel, one mile north of Masonic Home. Phone Black 198, Alhambra Home.

FOR SALE — STRONG OUTDOOR grown rooted cuttings. Send for 1-2-3 cent list. Other plants. Fine lot Blue Gums qt. tins—3 to 4 ft. GEM NURSERY, Los Gatos, Cal.

## RARE PLANTS.

WILD PLANT IMPROVEMENT GARdens, Santa Ana, California, NEWTON B. PIERCE, Proprietor. Rare, choice ornamentals and new fruits from all lands.

A. L. HARMON, COMMERCIAL PLANT grower, Begonias, Roses, Ferns, Bedding and Vegetable Plants. Write for prices. Cor. Glen Ave. and Crosby St., Pasadena Cal., R. F. D. No. 1.

## CATTLE.

SPECIAL — FOR SALE, HOLSTEIN bulls, two old enough for service and a number of yearlings. Also a few calves that are small enough to crate. Julianas, De Kols and all the strains for which this herd has been famous are represented. The only cows to hold World Records raised in the state were bred on this ranch. Same blood still represented largely in the herd. MINNEWAWA STOCK FARM, Fresno, Cal.

FOR SALE—REGISTERED JERSEY bull calf four months old. T. H. BOWEN, R. F. D. No. 2, Santa Ana, Cal.

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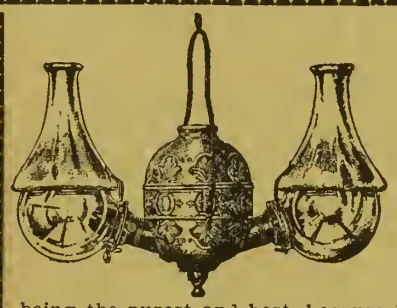
New building, new equipment; located in the best business district. One of the lightest, most convenient and best-equipped business colleges in America. Write for information about the great opportunities offered to trained office workers in the new San Francisco.



## Angle Lamp

### The Light That Never Fails

Thousands in use all over the country. A good light is the greatest pleasure and the first necessity of every home.

The only lamp on the market that is sold under absolute guarantee.

Remember, the light from Kerosene is the light science has agreed upon as being the purest and best, because it is soft and mellow and restful to the eyes. Here are a few of The Angle Lamp Merits:

**NO UNDER SHADOW. NO SMOKE, NO ODOR, LITTLE HEAT.**

**GREAT ECONOMY—COST LESS TO BURN** than an ordinary lamp. As easy to operate as gas or electricity, and better than either. **ABSOLUTELY SAFE** under all conditions. Lighted and extinguished like gas. Burned **HIGH** or **LOW** like **GAS** without a trace of odor. And a **BRILLIANT**, soft, steady, shadowless light—but this you will have to see to appreciate.

The lamp as shown in cut burns 22 hours on 3 quarts of oil.

***Send for Illustrated Catalogue with Prices***

**Boesch Lamp Co., 1135 Mission St., San Francisco**

Established 1869 Incorporated 189

SECURITY BUILDING
Ground floor and Basement occupied by the Security Savings Bank and Safe Deposit Vaults.

## SECURITY SAVINGS BANK

**Fifth and Spring Sts. Los Angeles, Cal.**

OLDEST AND LARGEST IN THE SOUTHWEST

**Capital and Reserve $1,350,000.00**

**Resources - - - $24,000,000.00**

**Over 52,000 Depositors**

**4% Interest on Savings Accounts**
And on Six Month's Certificates of Deposit

**3% On Special (Ordinary) Savings Accounts**
Which Accounts may be checked against without presentation of Pass Book. Interest is paid monthly on the minimum monthly balances.

**The Safe Deposit and Storage Department is the largest and best equipped in the West**

## $16.30 buys this handsome six-hole Nickel-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

**The Wm. Peck Co.**

**2803 Folsom Street, San Francisco, Cal.**


The shortage in the orange crop is not so severe as predicted earlier. As a rule, the leading orange sections maintain the crop will be seventy-five per cent of that of last year.

Coachella Valley is contemplating establishing a permanent exhibit of her products at Indio in order to show the merits of the country to tourists passing through that place.

# Household Department

### CLEON AND I.

Clean hath a million acres, ne'er a one have I;
Cleon dwelleth in a palace, in a cottage I;
Cleon hath a dozen fortunes, not a penny I;
Yet the poorer of the twain is Cleon, and not I,

Cleon, true, possesseth acres, but the landscape I;
Half the charms to me it yieldeth money can not buy.
Cleon harbors sloth and dulness, freshening vigor I;
He in velvet, I in fustian, richer man am I.

Cleon is a slave to grandeur, free as thought am I;
Cleon fees a score of doctors, need of none have I;
Wealth-surrounded, care environed, Cleon fears to die;
Death may come, he'll find me ready —happier man am I.

Cleon sees no charms in nature, in a daisy I;
Cleon hears no anthems ringing in the sea and sky;
Nature sings to me forever, earnest listener I;
State for state, with all attendants, who would change? Not I.

—Charles Mackay

### HESITATING SIM.

THERE had been a customer in the store who had wavered ten minutes between two grades of draw shaves and had ended by saying that he would look around a while and see if there wasn't something over at the hardware store which would suit him better.

"He's like Sim Hoisington," remarked Wash Hancock when he had gone. "Sim was that kind of a feller. He'd start to build a fence around a hawg lot an' use up the best part of a week figgerin' whether to go to the sawmill an' get him a load o' eight-inch stuff or to split rails. He'd start in with the rail idea an' allow that by the time he'd got all the rails split he'll wish he'd jest hitched up his team an' got boards.

"'You get a board fence an' you've got suthin' that's hawg-tight,' the neighbor'd say. 'Put up a rail fence an' mebbe you'll keep your hawgs inside of it an' mebbe you won't, an' you'll waste more time chasin' em than the lumber'll cost you.'

"Then Sim 'ud scratch his haid an' he'd say, 'By jucks! I reckon you're right. I'll hitch up the team this afternoon. 'I've be'n needin' a bunch o' shingles, anyway.'

"'Erlong about noon Sam's hired man 'ud come along up from the field an' Sim 'ud tell him he'd changed his mind about them rails, an' he'd fence with boards.

"'It don't make no difference to me," the hired man 'ud say, 'but I hearn tell they're askin' $10 a thousand for rough boards now an' you'll need a couple o' thousand foot. The rail ain't goin' to cost you nothin,' but the work o' gettin' 'em an' the roads is bad betwixt this an' the mill.'

"Sim 'ud scratch his haid again an' study. Then he'd say, 'I dunno but you're right, Bill. If I don't use up that there white oak for rails there ain't nothin' I can use it for, 'less'n it's firewood. I'd hafter buy nails, too. I never thought o' that. We'll grind them axes an' put a new handle in the maul first thing after dinner.'

"Then while they was grindin' the axes the schoolmaster'd stop to gas as he went by an' he'd nachally ast 'em where they was goin' to chop an' what they wanted the rails for.

"'Well,' he'd say, 'course I hain't no farmer, but seems like to me that a 'rail fence is the wastefulest kind of a fence. You take a 12-foot rail and lay it at an angle o' 45 degrees an' then count in the lay an' you're wastin' about three foot of it. Three foot mor'n if you were building a straight fence. If you stake and rider it you've wasted 21 foot o' rail on each panel. Then you count your land wuth sothin' don't you?"

"'I cert'nly do,' Sim 'ud say.

"'Then you've got the jog on each side o' the fence to figure in. That'll make a strip o' land four foot wide that you can't use. You take the len'th o' your fence an' see how much that comes to at $30 an acre.

"Sim 'ud stop right there an' send Bill off to harrer or suthin' while he'd go into the house an' put in the rest o' the day figgerin'.

"That's how Sim was about everythin'—politics, religion, temp'runce, horse tradin', food for his stock an' food for himself an' gals an' curing hams an' hail insurance an' the race problum an' bone fertilizer. Sometimes somebuddy 'ud change right over an' take the op'sit views. Finerly he got married."

"How did he make out to settle on the woman that he wanted?" asked Hank Tulliver.

"Well, that's suthin' a feller don't allus settle on himself," replied Hancock. "Seems like Sim's woman done the settlin'. Sim was kind o' sochuble, an' one night he was callin' on her an' he allowed that he wasn't right sure whether a feller wasn't better off single than he was married.

"'Well, you take my word for it this time,' she says. "There's some that's better married an' you're one o' that kind.'

"'Mebbe you're right,' says Sim, 'but who'd I marry? I've though of it, but I dunno as there's any woman around here that 'ud suit me.'

"'You don't need to go no further than this place,' she says, 'I'd suit you first rate, an' I'm willin' too, so as your buggy's outside an' the preacher is over to his house we'll jest hop right in an' drive over there.'

"Well, she put on her bonnet while he was studyin' on it an' the next thing he knowed he was in the buggy with her. After a while he says to her, 'How do you know I'd suit?'

"'I've thought of that, Sim,' she says, 'an' I've come to the conclusion that it's because your idees is jest the same as mine. You're a hardshell Baptis' now an' forevermore an' nothin won't never stir you the width of a rat's whisker, an' so am I. You're a rock-ribbed, dyed-in-the-wool dimercrat with no leanin's tords them popyerlists or republican mugwumpses an' will be till the day you die, an' me an' my folks have allus been the same. You hold with a man makin' up his mind an' a-stickin' to it, whether or no, 'ceptin' when his wife might objec,' an' that's me. Ain't that all so?'

"'I guess it is,' says Sim.

"'You bet it is,' she says. 'Now, you get out an' hitch en' then he'p me out. An' I want to tell you that if you ever have any doubts about anythin' from this time on, you come to me an' tell me an' I'll make up your mind so quick it will make your haid swim."—Universal Magazine.

## THE DIGNITY OF LABOR.

There are many people who are rich and have others do their work for them, but the majority of us have to work with our hands, and the day will come when the man or the woman who works with his brains alone will be considered only half educated. There are many rich people who work harder than poor ones. Life is like one great carpet, and some of us have to weave the dark body threads and others put in the gay ones. We could not have our carpet without the body threads just as we could not have the world as it is today without the workers. They are the backbone of our nation. It does not matter what kind of work we have to do so long as we do it well. The woman who goes out washing by the day is doing fine, honorable work, if she does her work thoroughly and takes just as much interest in other people's work as if it were her own. If you do your work well, it shows what kind of a workman you are. Some women think they are paid to do work and that they must only do what they are paid for. The woman who gets ahead is not the woman who stops because the clock strikes six. Our life and our character are affected by the way in which we do our work. If we know how to do our work well and do it in a careless and slighting manner, that habit grows very quickly, and after a time we lose the capacity to do our work in the best way. You can make your work dignified no matter what the work is. If you are ashamed of your work, the work will never be done right, and you can never be a happy person. We must do our work well, and we can make our work and our life what we will. There is no more glorious work for women than that of housekeeping, and the woman who makes a home, prepares the meals, washes the dishes three times a day, and makes the clothing for the little children is the woman who is entitled to all honor and glory. The woman who is her own housekeeper and mistress can so dignify labor that housekeeping will be considered the finest kind of a profession. Half the battle in any field is to love the work we have to do today, and do it well. Do not envy other people, but be satisfied with what you have.

Every mother should see to it that her daughter is inspired with the art of good housekeeping and feels that when necessity arises she can do her own work without feeling that she is doing anything which lowers her dignity.—Mary F. Rausch.

## TO TAKE MILDEW FROM CLOTH.

When the mildew is deeply imbedded in the cloth, chloride of lime can do the trick. Put a heaping teaspoonful of it into a quart of cold water, stirring it well with a wooden spoon until thoroughly dissolved; then strain it twice. Immerse the mildewed article in this solution and work it about with a wooden spoon, not touching it with the hands but leaving it in the water until the mildew seems to have disappeared; then lay it in the sun and when it is dry, if the spot is still visible, repeat the operation until it has faded entirely out. Afterward wash in a tub of cold water changing the water once. This will not do for colored cloth as chloride of lime, a pound of it, with the addition of a large spoonful of salsoda in a pailful of soft water will bleach the color out of anything left in it 15 minutes. Rinse thoroughly, afterward drying in the sun."

For lighter mildew stains we mention the soap and chalk remedy which the most of us have tried with good success.

Oxalic acid will remove iron rust. A strong solution is used to wet the spots and then they are laid in the sun. Repeat if necessary. The oxalic acid is poisonous and must be handled with care. A little ammonia in the second rinsing water after using acid will help to take it all out of the cloth. Sometimes when these bleaching agents are used there will be a slight stain left from the mildew; iron rust or other stains generally disappear if the stained cloth is boiled in pearline suds and rinsed with the regular washing.

## RECIPES.

**Noodles for Soup.**

Break one egg, sift and stir in half a cup of flour and a saltspoon of salt. Knead and roll as thin as possible on a molding board dusted with flour. Let this stand five minutes, then roll up loosely. With a sharp knife cut thin slices from one end and let these curls of dough lie on the board for about half an hour. Have some boiling, slightly salted water; drop in the noodles and cook 25 minutes. Drain well and add to hot soup or beef broth.

**Baked Ham.**

Choose a small ham and trim it neatly. Then wash well and put it in a pot of boiling water deep enough to cover. Let it boil for about three hours or until the ham is tender. Take from the water, loosen the tough outer skin at one end and pull it off. Score the top of the ham with a knife in deep parallel cuts, stick full of cloves and pepper well with black pepper. Set in a hot oven and bake brown, basting frequently with a cupful of vinegar in which three tablespoons of sugar have been dissolved.

## WATERMELON BOOTH FOR A SUMMER FAIR.

The feature which scored the greatest success at a summer-resort fair was a watermelon booth, the bright invention of an artist sojourning at one of the hotels.

The booth was hung with festoons of red and green tissue-paper and decorated with piccaninny heads cut from black paper, with features painted in water-color.

Big slices of watermelon at ten cents a slice were served by one of the ladies interested, blacked and bandana-ed to represent a portly Southern mammy. The "watermillion," owing to the warm weather and the novelty of it, took like the proverbial hot cakes.—Woman's Home Companion for August.

## BY DEGREES.

A maiden at college named Breeze,
Weighed down by B. A.'s and M. D.'s,
Collapsed from the strain.
Said the doctor: "'Tis plain,
You are killing yourself by degrees!"
—Success Magazine.


# California Genuine Sardines

## Not a Substitute, but a Genuine Sardine

They have all the old time Sardine qualities. Delicious in flavor, a wholesome, nutritious food. You will prefer them to any you have ever eaten.

**PROFESSOR DAVID STARR JORDAN,** President of Leland Stanford University The leading authority on fishes of the Pacific Coast, writes of the California Sardines, in "Fishery Industries of the United States," 1894, page 569: "This species is everywhere known as the Sardine or by the Italians as Sardinea." It is in fact almost identical with the sardine of Europe.

### Your Only Protection

against substitution lies in becoming acquainted with our brands.

### Don't Ask for a Can of Sardines or California Sardines

But ask for any of the following brands and insist upon getting them:

### Put Up Only Under These Brands

| BRANDS | STYLES | BRANDS |
|---|---|---|
| Goldfish | Ravigote | La Rouchelle |
| Sunset | Le Croix | Mission |
| Senorita | Boneless | Sunset |

If your grocer does not carry them in stock write us.

CANNERY, SAN PEDRO, CAL.
The only Cannery of Genuine Sardines in America that is operated 12 months in the year in the same line of business.

Five Colored California Post Cards Free

## California Fish Co.

116 Henne Bldg.
Los Angeles, Cal.

# SLUMBERLAND MATTRESS

SLUMBERLAND is synonymous with sleep. We want you to remember it as the name of the best mattress on the market,—the antidote for insomnia.

***A Good Advertisement for Us***
***A Good Investment for You***

SLUMBERLAND is made of the choicest materials,—under hygienic conditions which insure perfect sanitation. Constructed by the best mattress makers, it appeals to the tired body,—and the price is within the reach of all. It comes in all sizes.

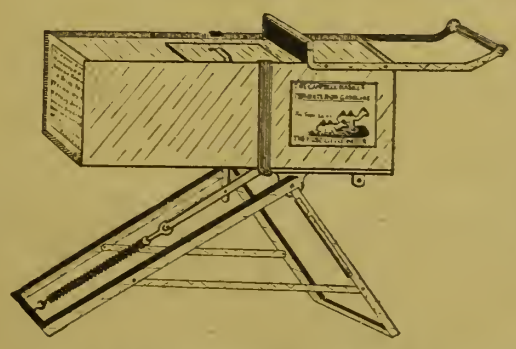
Prices respectively, $16, $18, and $20.

## PEASE BRO'S.
FURNITURE CO.
640-46 S. HILL ST.
Los Angeles.

WE PAY FREIGHT — FULLY GUARANTEED

# CUT OUT YOUR LAUNDRY BILL

## A Campbell Washing Machine



will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

**FOR WATER OR GASOLINE**

Circular on application. **For Sale by**

## Boesch Lamp Co.

**1135 Mission St.,** Near the Post Office, **San Francisco, Cal.**

**$550** will buy the best ***88-NOTE*** Player on the market. Crown & Concord Pianos. 10-in. Disc Records 25c.
**PETER BACIGALUPI & SONS, Phonographs & Pianos**
**941 Market Street, . . . San Francisco**

**JAMES R. TOWNSEND**
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# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Sept. 8, 1909.

### Butter.

An advance of 2½ cents has been finally made on butter after being stationary for several weeks at 62½ cents. Market firm.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

| | |
|---|---|
| Creamery per roll | 62½@65 |
| Dairy per roll | 30 |
| Eastern creamery per lb | 30 |
| Cooking | 25 |
| Ladles | 26 |

### Cheese.

| | |
|---|---|
| Southern California Anchor | 20 |
| Northern fresh | 18 |
| Anchor Young America | 21 |
| Domestic Swiss | 21@23 |
| Imported Swiss | 30 |

### Eggs and Poultry.

A slight advance is noted in both extras and case count. Receipts are lighter; market firm; even storage is now commanding 32 cents.

Paying price f. o. b. L. A. are:

| | |
|---|---|
| Eggs | 36@38 |
| Case count buying price | 32 |
| Eastern | 32 |
| Storage | 32 |
| Extra packed | 30 |

Dealers pay for live poultry f. o. b. L. A.:

| | |
|---|---|
| Hens per pound 3½ up | 15 |
| Stags and old roosters | 7 |
| Fryers 2 to 2¾ lbs | 15 |
| Broilers 1¼ to 1¾ lbs | 17 |
| Roasters 3 lbs and up | 16 |
| Turkeys | 18@22 |
| Geese | 12 |
| Ducks | 12@13 |
| Squabs | 1.25@1.75 |

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

| | |
|---|---|
| Hogs from 175 to 200 pounds | 7½ |
| Prime steers | 4@4¼ |
| Heifers | 3½@3¾ |
| Calves per pound | 5 |
| Sheep ewes per head | 3.75@4.00 |
| Lambs per head | 3.25@3.50 |
| Wethers | 4.50@5.00 |

### Potatoes.

Wholesale prices are:

| | |
|---|---|
| New sweets per ctl | 2.00@2.50 |
| Early Rose local | 1.50 |
| Burbank local | 1.40@1.50 |
| Highlands | 1.25@1.35 |

### Onions.

Wholesale quotations:

| | |
|---|---|
| Silverskins, local | 75@1.00 |
| Northern Yellow Danvers | 1.15 |
| Australian Browns per sack | 1.15 |

### Vegetables.

| | |
|---|---|
| Artichokes locals | 60@75 |
| Asparagus | 4@6 |
| Beets per sk | 90 |
| Beans string | 2½ |
| Brussels sprouts per lb. | 10 |
| Bell peppers | 4@5 |
| Cabbages per sack | 75 |
| Celery per doz | 60@90 |
| Chili per lb | 25 |
| Cucumbers per box | 25@50 |
| Cauliflower per doz | 1.35 |
| Carrots per sk | 90 |
| Corn per box | 40@50 |
| Egg plant per lb | 4½ |
| Green onions per doz bunches | 20@30 |
| Hubbard squash per lb | 2½ |
| Summer squash per box | 30 |
| Lettuce choice | 75@1.00 |
| Oyster plant | 50 |
| Okra per lb | 5 |
| Peas per lb. | 3@4 |
| Parsley doz | 25 |
| Parsnips | 40 |
| Radishes per doz | 15@20 |
| Rhubarb, No. Strawberry | 1.50 |
| Spinach per doz. | 15@20 |
| Turnips sk | 90 |
| Tomatoes lugs | 15@45 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 1.75 |
| Grapefruit | 1.75@3.00 |
| Lemons | 1.25@3.90 |

### Fresh Fruits.

Wholesale prices on the market are:

| | |
|---|---|
| Apricots per lug | 35@50 |
| Alexanders | 1.00@1.75 |
| Bellefleurs | 1.25@1.35 |
| Gravensteins | 1.25@1.75 |
| Casabas per crate | 50@1.00 |
| Cantaloupes Jumbos | 1.25 |
| Figs | 1.20@1.50 |
| Grapes lug box | 75@85 |
| Loganberries | 8 |
| Nectarines | 75@1.00 |
| Peaches box | 75@85 |
| Pears Bartletts box | 1.75 |
| Plums | 50@90 |
| Prunes | 60@75 |
| Raspberries | 6@7 |
| Blackberries | 5@6 |
| Strawberries | 4@5 |
| Watermelons per lb. | ¾@1 |

### Dried Fruits.

Wholesale prices are:

| | |
|---|---|
| Apricots | 10 |
| Evap apples fy per lb | 10@11 |
| Figs loose | 5 |
| Peaches | 6 |
| Pears | 8 |
| Plums pitted | 8 |
| Nectarines | 7½ |
| Prunes | 3@6½ |

### Beans Dried.

Wholesale prices are:

| | |
|---|---|
| Pink No. 1 | 3.50@3.75 |
| Limas per ctl | 4.75 |
| Black eyes | 3.50 |
| Lady Washington | 5.00 |
| Small White | 6.25@6.50 |
| Garvanzas | 4.00@4.50 |

### Nuts.

| | |
|---|---|
| Almonds IXL per lb | 16@18 |
| Pecans polished | 15@16 |
| Peanuts California | 5 |
| Peanuts Eastern | 7 |
| Walnuts No. 1 | 12@13 |
| Walnuts No. 2 | 9@10 |
| Walnuts grafted | 15 |

### Honey.

Wholesale quotations:

| | |
|---|---|
| Extracted water white | 7½ |
| Extracted Light Amber | 5½@6 |
| Comb Water White | 15 |
| Comb, white | 14 |
| Beeswax | 25 |

### Hay.

| | |
|---|---|
| New Barley hay | 8.50@14.00 |
| Alfalfa, local | 11.00@12.00 |
| New alfalfa Imperial | 10.00@11.00 |
| Northern | 10.50@12.00 |
| Wheat hay | 10.00@12.50 |
| Tame oat | 10.00@15.00 |

### Grain.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Wheat new per ctl | 1.95@2.00 |
| Kaffir corn | 2.00 |
| Corn Eastern bulk | 1.75 |
| Egyptian corn | 1.80 |
| White oats | 2.25 |
| Seed Rye | 2.00 |

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Cracked corn | 1.80 |
| Shorts | 1.85 |
| Bran | 1.60 |
| Cocoanut cake | 1.35 |
| Cocoanut meal | 1.85 |
| Cottonseed meal | 1.25 |
| Oil cake meal | 2.00 |
| Feed meal | 1.85 |
| Rolled Barley | 1.50 |

## San Francisco Markets

SAN FRANCISCO, Sept. 6, 1909.

### Butter.

Butter dropped a cent on extras on Saturday and remains firm at that quotation.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

| | |
|---|---|
| California extras per lb. | 31½ |
| Cal. firsts | 30 |
| California seconds | 27½ |
| Packing | 24½ |

### Cheese.

| | |
|---|---|
| California flats | 14½@16 |
| Cal Young America fy | 15@16½ |
| Young American Oregon fy | 16½ |

### Eggs and Poultry.

Eggs are in light supply and advanced a cent a dozen on Saturday. Market firm.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

| | |
|---|---|
| Fresh ranch | 24@39 |
| Hens per doz. | 4.50@9.00 |
| Roosters | 4.00@9.00 |
| Fryers per doz | 5.00@6.00 |
| Broilers | 3.00@4.00 |
| Geese per pair | 1.50@2.00 |
| Ducks | 4.00@8.00 |
| Turkeys | 18@25 |
| Pigeons young | 1.00@2.25 |

### Live Stock.

San Francisco prices gross weight:

| | |
|---|---|
| Steers | 2¾@4¼ |
| Cows and heifers | 2@3¼ |
| Hogs | 4½@7½ |
| Calves per lb | 4@5¼ |
| Milk lambs | 5½ |
| Wethers No. 1 | 4¼ |
| Ewes No. 1 | 3¾ |

### Potatoes.

Wholesale market quotations:

| | |
|---|---|
| New crop | 70@80 |
| River Whites | 70@85 |
| Salinas | 1.50@1.60 |
| Sweets crates per lb. | 1.75 |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Asparagus per box | 50@1.00 |
| Bell peppers per box | 35@50 |
| Brussels sprouts per lb | 3@5 |
| Cabbage per box | 2.00@2.25 |
| Cauliflower doz. | 75@1.00 |
| Carrots per sk | 65@75 |
| Cucumbers per box | 25@50 |
| Cucumbers, pickles | 50@1.25 |
| Celery, doz | 30@40 |
| Chili peppers per box | 25@35 |
| Corn per sk | 50@1.00 |
| Egg plant per box | 65@75 |
| Green peas per lb. | 2½@3 |
| Okra | 65@75 |
| Onions green per box | 50@60 |
| Rhubarb per box for bay | 1.25@1.50 |
| Squash per box | 25@40 |
| String beans | 2@3 |
| Tomatots | 35@75 |
| Wax beans | 2@4 |
| Lima beans | 3@5 |

### Onions.

| | |
|---|---|
| Yellow | 60@70 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 1.50@3.00 |
| Grapefruit | 1.00@3.25 |
| Lemons | 1.25@4.00 |
| Limes | 5.50@6.00 |

### Fresh Fruits.

| | |
|---|---|
| Apricots per lb | 2@3 |
| Apples common | 50@85 |
| Gravensteins | 1.25@1.50 |
| Bellflowers | 1.00@1.25 |
| Crab apples | 60@75 |
| Figs blk box | 40@50 |
| Grapes seedless | 40@50 |
| Tokays | 50@60 |
| Malagas | 50@65 |
| Rose of Peru | 50@60 |
| Muscats | 50@65 |
| Isabellas | 75@90 |
| Logans per chest | 3.00@4.00 |
| Nectarines crate white | 40@50 |
| Nectarines red | 75@85 |
| Cherry plums per box | 25@35 |
| Peaches per lug box | 75@1.25 |
| Peaches per lug box clings | 50@85 |
| Plums boxes | 40@65 |
| Plums Tragedy crates | 60@75 |
| Pears Bartletts | 1.00@1.75 |
| Cantaloupes | 1.00@1.25 |
| Nutmegs per box | 35@60 |
| Muskmelons | 1.00@1.50 |
| Pears box | 60@1.50 |
| Pomegranates | 75@90 |
| Quinces box | 50@65 |
| Blackberries per chest | 2.00@3.00 |
| Huckleberries per lb. | 10@12½ |
| Raspberries per chest | 5.00@6.00 |
| Longworth per chest | 3.00@4.00 |
| Malindas per chest | 3.00@4.00 |
| Watermelons per doz | 1.00@2.00 |

### Dried Fruits.

| | |
|---|---|
| Prunes 4-size basis | 2¼ |
| Santa Clara | 2⅜ |
| ¾ cent premium for larger sizes. | |
| Apricots per lb. | 8@11½ |
| Peaches—Choice 4¼; Fancy | 6 |
| Apples evap | 5@9½ |
| Pears | 6@9 |
| Figs | 2½@4½ |
| Nectarines | 5@6 |
| Plums | 7@8 |
| Apples | 7½@8½ |

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do, No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12, 3⅜c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached, 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

| | |
|---|---|
| Walnuts soft shell | 12½ |
| Hard shell | 6@8½ |
| Ne Plus Ultra | 12¾@13¼ |
| Almonds '09 N P U | 12¾@13¼ |
| Almonds '09 nonp | 14½ |
| Almonds '09 I X L | 13½@14 |
| Pecans | 15@17 |
| Chestnuts | 2@10 |
| Peanuts | 5@6 |
| Pine nuts | 22½@25 |

### Beans Dried.

| | |
|---|---|
| Limas | 4.10@4.25 |
| Pink | 3.00@3.12½ |
| Small white | 7.50 |
| Large white | 3.75@4.00 |
| Black eyes | 3.40@3.60 |
| Red kidneys | 3.50@3.75 |
| Garvanzas | 3.00@3.50 |
| Bayo | 5.00@5.25 |
| Horse Beans | 1.90@2.10 |
| Cranberry | 4.25@4.50 |

### Hops.

| | |
|---|---|
| Hops 1909 crop | 18@20 |
| Hops 1908 crop | 12@14 |
| Old | 5@8 |

### Honey.

| | |
|---|---|
| White comb | 14@15 |
| Light Amber | 10@12 |
| Extracted W W | 7½ |
| Extracted light amber | 6½@7 |
| Beeswax per lb | 25@29 |

### Hay.

Receipts of hay during the week have been 4000 tons. There is more hay coming in by water now than we have been receiving by water since last summer. The arrivals by railroads have eased off somewhat, as many of the farmers have thought that the prices that prevailed on this market were not in keeping with conditions as they view them; consequently they have held off shipments for a while.

There has been practically no hay, to any extent, change hands in the country recently, as there is a large difference between the ideas of prices between the farmers holding the hay and intending purchasers. Small lots for prompt shipment have been purchased, but nothing to amount to much, or to attract any attention, and not enough to have any effect on the market one way or the other.

The market here in San Francisco during the week has not changed to any extent. Prices on fancy hay of any kind have been well maintained, but there has been a decidedly weak feeling shown on all offerings of medium and poorer classes of hay. Consumers here have become so used to having good hay for the last two years, that they do not want any off grades, and will not purchase except at a low figure, these types of hay; therefore the medium and poorer classes of hay have dragged badly, and returns have been unsatisfactory to shippers.

Alfalfa hay is arriving in large quantities, and while the market is not definitely lower, there is, however, a feeling of weakness throughout the entire line. Many consignments of No. 2 hay have been sent in from various sections, and returns on such grades have not been up to the expectations of the shippers.

This week's quotations are:

| | |
|---|---|
| Choice wheat hay | 17.50@18.50 |
| No 1 wheat or wheat & oat | 16.00@17.00 |
| No 2 wheat or wheat & oat | 13.50@15.00 |
| Choice tame oat | 16.00@17.00 |
| Other tame oat | 12.00@14.00 |
| New crop wild | 11.00@14.00 |
| Stock hay | 8.00@9.00 |
| Alfalfa | 10.00@13.50 |
| Straw | 55@65 |

### Grain.

| | |
|---|---|
| Wheat No. 1 | 1.65@1.75 |
| Barley | 1.30@1.40 |
| Oats white | 1.70@1.75 |
| Oats gray | 1.67½@1.72½ |
| Rye new crop | 1.70@1.75 |
| Corn Egyptain | 1.60@1.65 |
| Cal sm round | 1.80@1.82½ |
| Alfalfa seed, Cal. | 16@18 |
| Mustard brown | 3¾@4½ |
| Millet | 2½@3 |
| Flaxseed | 4 |
| Broom corn seed per ton | 23.50 |

### Feed Stuff.

| | |
|---|---|
| Bran per ton | 29.00@30.00 |
| Feed cornmeal per ton | 39.00@40.00 |
| Cracked corn per ton | 40.00@41.00 |
| Rolled barley per ton | 31.00@32.00 |
| Rolled oats per ton | 40.00@41.00 |
| Oil cake per ton | 38.50@40.00 |
| Cocoanut cake per ton | 25.00 |
| Middlings | 36.00@37.50 |
| Mixed feed per ton | 25.00@30.00 |
| Shorts | 31.50@33.00 |

## Citrus Market

LOS ANGELES, Sept. 8, 1909.

If anything the Valencia market is somewhat stronger than last week, though it is somewhat embarrassed by the excess of small off sizes. With little question the season will close without any record breaking prices, but a fair return for everything yet to go is confidently expected.

The cooler weather has somewhat depressed the lemon situation, but with the very limited number now going forward, and the limited receipts of foreigns, fair returns are expected through the season. Only about ten or a dozen cars are shipped daily.

### Shipments.

Total shipments of citrus fruits to date this season, 36,189, of which 30,301 were oranges and 5,888 lemons.

ST. LOUIS, Aug, 6.—Hot. Market weak on oranges, higher on lemons. Six cars sold.

| LEMONS— | Avge. |
|---|---|
| Princess, Q. C. Exx., Corona | 3.10 |
| Matador, A. H., Prenda | 1.05 |
| Grove, Q. C. Ex., Corona | 1.40 |
| Sunset, S. S., Orange | 2.25 |
| Foxaway, E. F. G., Escondido | 2.45 |
| Lily, Q. C. Ex., Corona | 1.90 |
| Queen Bee, Q. C. Ex., Corona | 2.50 |
| Searchlight, S. S., Orange | 3.35 |
| Plain Ends, E. F. G., Escondido | 1.65 |
| Oriole, V. C. Fillmore | 1.65 |
| VALENCIAS— | Avge. |
| Searchlight, S. S., Orange | 2.00 |
| Airship, V. C. Fillmore | 2.10 |
| Sunset, S. S., Orange | 1.65 |
| Oriole, V. C. Fillmore | 1.70 |

Very steady on oranges, stronger on lemons. Weather warm.

| LEMONS— | |
|---|---|
| La Palmona, Riv. Ex., Riv. | 1.80 |
| Primrose, D.-H., Duarte | 2.25 |
| Green Crown, A. C. G., Azusa | 1.55 |
| VALENCIAS— | Avge. |
| Jasmine, S M., Duarte | 2.55 |

Coyote, O. K. Ex. .....2.55
Owl, O. K. Ex. .....2.05
Stock Label, D. M. Duarte .....2.35
Blue Jay, O. K. Ex. .....2.05
Jasmine, D. M., Monrovia .....2.60

| GRAPEFRUIT— | Avge. |
|---|---|
| Primrose, D. M., Duarte ..... | .80 |

BOSTON, Aug. 6.—Seven cars sold. Steady on oranges, easier on lemons.

| LEMONS— | Avge. |
|---|---|
| Pet, S. A. Ex. | 2.90 |
| Quail, O. K. Ex. ..... | 2.75 |
| Greyhound, S. A. Ex ..... | 2.25 |

| VALENCIAS— | Avge. |
|---|---|
| Butterfly, Covina Ex., Covina .... | 2.55 |
| Rey, Fernando ..... ..... | 3.05 |
| Pansy, Colton O. G. Asso. ..... | 2.45 |
| Albion, T. Strain ..... | 2.25 |
| El Toro, C. C. U. ..... | 1.75 |
| Old Oaken Bucket, Covina Ex. .. | 2.30 |
| Tunnel, Fernando ..... ..... .. | 2.55 |
| Victory, C. C. U. ..... ..... | 2.35 |
| Cambria, T. Strain ..... .... | 2.15 |

| GRAPEFRUIT | Avge. |
|---|---|
| Tunnel ..... ..... ..... | .80 |

PHILADELPHIA, Aug. 6.—Four cars Valencias and one car lemons sold.

| LEMONS— | Avge. |
|---|---|
| Wright ..... ..... ..... | .85 |

| VALENCIAS— | Avge. |
|---|---|
| Echo, Pasadena .... ..... ..... | 2.70 |
| Mountain Crest, S. A. Ex. ..... | 1.60 |
| Climax, E. Peycke Co. ..... ... | 2.05 |
| Mallard, Randolph Ft. Co. ..... | 1.75 |
| Arroyo, Pasadena ..... ..... ... | 2.45 |
| A One, E. Peycke Co. ..... ..... | 2.40 |
| Cannon ..... ..... ..... .. | 1.85 |

CINCINNATI, Aug. 6.—Warm. Market steady. Two cars oranges and two cars lemons sold.

| LEMONS— | Avge. |
|---|---|
| Pet, S. A. Ex. ..... | 3.40 |
| Greyhound, S. A. Ex. ..... | 3.00 |
| Troubador, A. H., Arlington ..... | 1.55 |
| Arab, S. A. Ex. ..... ..... | 3.05 |
| Duck, S. A. Ex. ..... ..... | 2.35 |

| VALENCIAS— | Avge. |
|---|---|
| Greyhound, S. A. Ex. ..... ..... | 2.30 |

CLEVELAND, Aug. 6.—One mixed car sold. Market unchanged on oranges. Weather cool.

| VALENCIAS— | Avge. |
|---|---|
| Greyhound, S. A. Ex. ... ... ..... | 2.40 |

PITTSBURG, Sept. 7.—Four cars sold. Market firm on good stock Valencias and lemons. Cool.

| VALENCIAS— | Avge. |
|---|---|
| Whittier, S. T. Whittier ..... | 2.35 |
| Mountain Crest, S. A. Whittier .. | 2.05 |
| Pico, S. T., Whittier ..... ..... | 2.20 |

| Lemons— | |
|---|---|
| Dawn, S. A. Ex. ..... | 1.00 |
| Greyhound, S. A. Ex. ..... | 1.75 |

BOSTON, Sept. 7.—Seven cars sold. Weather favorable. Market is strong on large sizes.

| VALENCIAS— | Avge. |
|---|---|
| Queen Bee, Q. C., Corona ..... | 3.05 |
| Ibex, S. T., Rivera ..... ..... | 3.00 |
| Alhambra, S. T., E. Alhambra ..... | 3.00 |
| Tunnel, S. T., Fernando ..... | 2.75 |
| Majestic, xc, C. F. Spencer ..... | 2.65 |
| Royal, Q. C., Corona ..... | 2.65 |
| Rivera, S. T., Rivera ..... | 2.75 |
| Rey, S. T., Fernando ..... | 3.15 |
| Flamingo, or, C. C. U. ..... | 2.20 |

GRAPEFRUIT—Queen Bee, $3.45; Champion, $3.00; Champion Seedless, $4.40; half boxes, $3.05.

ST. LOUIS, Sept. 7.—Cool. Three cars sold. Market strong on large sizes.

| VALENCIAS— | Avgt. |
|---|---|
| Whittier, S. T., Whittier ..... | 2.10 |
| Stag, A. C. G., Glendora ..... | 3.30 |
| Pointer, A. C. G., Glendora ..... | 2.00 |
| Pico, S. T., Whittier ..... | 2.35 |

LEMONS—Troubadour, $1.40;
GRAPEFRUIT—Stag, $1.45.

## NEVER FORGET.

That the fairest flowers fade soonest.

That knowledge leaves no room for chances.

That pride is never so offensive as when in chains.

That a sealskin sacque does not always keep the heart warm.

The darkest cloud often contains the most fruitful showers.

That an open enemy is to be respected, a secret one to be suspected.

# Legal

Edw. L. Payne, attorney, 301-304 Douglas Bulding, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Payne is paid. When replies are wished in Cultivator address query to 115½ N. Broadway, Los Angeles.

### Diverting Water from Proper Owner.

A and B buy land in an irrigation district, the land owning the water. B buys on a different lateral. Owing to a shortage of water can directors of said district vote the water from A's lateral and give it to B, B refusing to use water during period of heavy run, A's crop at present time suffering from lack of water owing to improper distribution of water in A's lateral?—Subscriber, Modesto.

No, unless there is some provision for such a condition in the by-laws of the company.—E. L. Payne.

### Railroad Company Liable.

When a railroad takes land for right of way and cuts down for grades to suit them, what is done to keep land of former owner of said right of way from caving, and who bears the expense?—Subscriber, Glendale.

The railroad company is liable in damages to the owner through whose land the cut runs if the land of the owner is caused to cave by any carelessness or negligence on the part of the railroad company, or by virtue of the method of constructing the road, and the Company should adjust the matter upon demand by the owner.—E. L. P.

# Veterinary

Answers in this column by Dr. R. T. Whittlesey, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Pin Worms.

Please give me through the columns of your paper a remedy for pin worms in horses—Subscriber, Pasadena.

Turpentine three ounces, aloin one ounce, cottonseed oil one pint. Mix and give at one time. If the horse does not physic well in two days, repeat Give several (five or six) enemas of strong salt water solution.—R. T. W.


**DR. WHITTLESEY'S VETERINARY REMEDIES.**

These are not ordinary mixtures but are from well tried formulas, used in an extensive practice in Southern California for nearly a quarter of a century. Dr. Whittlesey's Sulphur Arsenical Salve for deep fistulous or ordinary chronic, indolent sores such as, "Poll Evil," "Fistulas," "Quitters," "Thrush," "Scratches," "Warts," "Collar sores" or "Sit-fasts," $1.00 per package postpaid. Printed directions. Dr. Whittlesey's Antiseptic Healing Powder forms a coating over raw surfaces, excludes air, flies and floating germs. Makes a cheap and convenient dressing for the many sores that occur to stock on the ranch. $1 full pound can postpaid.

DR. R. T. WHITTLESEY.
Veterinary Hospital, 714 East Seventh St., Los Angeles, Cal.


## THE GUILTY PARROT.

Mrs. Carrie Chapman Catt, the well known suffragist, while she hopes she gives due credit to the noble being, Man, does not, on the other hand, overestimate the lords of creation. She was speaking recently of another prominent woman who is somewhat lukewarm in the suffrage cause.

"The trouble with Mrs. Blank," said Mrs. Catt, "is that she fairly worships her husband. She thinks that he is absolutely perfect. Why, the woman actually believes that the parrot taught him to swear."—Woman's Home Companion for September.

## STATE FAIR.

(Continued from Page 259.)

hibit is greatly heightened by these improved conditions. Certainly we have never seen a larger or better exhibit of birds brought together.

### Overflow.

Owing to shortage of house room, many of the exhibits were made in tents. These were in the nature of overflow exhibits, and one tent was devoted to automobiles, of which there was a large number and of all varieties. It was an encouraging sight to notice that many farmers exhibited a decided interest in this display and asked numerous questions about the machines, many of which indicated that they were not tyros in the use of these new vehicles.

### The Track.

The Speed trials, divested as they were of the gambling features, did not attract the attention that they have done in the past, that is, the whole fair was not subordinated to the horse races, but despite this fact there were some good running matches and these were generally well attended.

### Bar Maids.

There was one discordant element in connection with the fair this year. In extending invitations to the various manufacturers and producers of the state to participate in the exhibit, an invitation was extended to the Winemakers' Association and accepted by that body. A beautiful booth was erected, handsomely decorated and fitted up with tables and chairs. It was determined to deal out samples of California wines to all visitors, and to make the exhibit more attractive, several young ladies, dressed as European bar-maids, were employed to serve the wine. The whole was attractive, without a doubt, but the proposition of giving out free drinks at the state fair aroused the W. C. T. U., and the temperance people of the state and a strong protest was entered against it. It was too late to recall it, however, and to even up matters, a space was given to the W. C. T. U. people in the gallery almost immediately above the wine display, and here a booth, covered with scriptural mottoes against drinking was erected and while wine was being served in the lower booth denunciations against its use were hurled from the upper booth. Very many people visited the temperance booth and congratulated the good women having it in charge on the work they were doing, but the wine booth was crowded all the time.

### Reduced Attendance.

There was a fairly good attendance at most of the sessions, but on the whole the fair was not so largely attended as in former years.

Several causes can be adduced for this, the lack of proper buildings the unfinished condition of those already erected, the rough nature of the grounds and lack of other attractive features. Seeing that all the work on the buildings has been done in the past few months, and almost the past few weeks, the management deserve praise for what they have done, and by the time another fair season rolls around it is probable that California will have one of the finest fair grounds in the country.

Large areas of marsh land have been reclaimed near Marshfield, Oregon, and sold at the rate of $100 per acre.

# Business Notes

### RESULT OF A LITTLE AD

The following letter is self-explanatory. It raises a question of interest to many readers of the paper. All over the state there are scores of people who have things to sell to those who wish to buy. The Liner department of the Cultivator is the easy method of communication. The cost is nominal. Only a cent and a half a word, no charge less than 25 cents, but brings the seller and buyer together at once. Read Mrs. Hart's letter and profit by her experience.

"I do not understand why the small farmers do not make more general use of your columns to advertise and save the middlemen's profit. Last year one small advertisement sold all the Newtown pippins I had, more than 100 boxes. Many who ordered, duplicated their order as soon as first lot of apples was received by them.

"Please insert enclosed adv. in your next issue. Enclosed find 25 cents to pay for same. Mrs. John Hart, Watsonville."

### A HOT ONE FROM CHILE.

The following letter from E. E. McClanahan one of the Cultivator's pleased patrons, explains itself. Mr. McClanahan is one of our large advertisers. He furnishes bright, snappy copy well illustrated; the Cultivator does the rest:

Aug. 23, 1909.

California Cultivator,

Gentlemen:—It might interest you to know that through my ad. in your paper for Success Fireless Brooders, I have on file an order for the 150-chick size from F. Robinson, Santiago, Republic of Chile. It takes the Cultivator to bring the orders from all corners of the earth.

Yours faithfully,
E. E. McCLANAHAN.

## QUERIES.

(Continued from Page 258.)

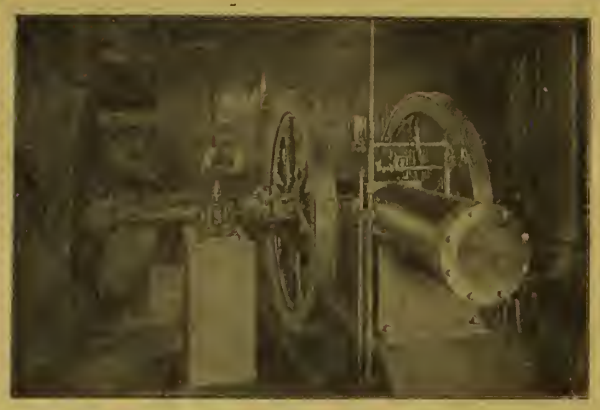
I wish I could call the cows up to say what they think of sorghum as feed! The only thing about sorghum is to begin to feed it slowly and a little only until the cows are accustomed to eat it. The seeds do no harm, but the cows will eat the sorghum up clearer if it is cut when the heads begin to burst out before the seeds form. Cut the sorghum above the first nodes or joints and it will sprout again and can be cut as soon as it is tall enough. I prefer to cut it when it heads to letting it grow longer. It cures readily when spread on dry land away from the cornfield. It makes excellent hay and will keep readily all winter. We begin to cut the sorghum when three feet high and keep cutting it each day, feeding it green to the cows and drying the surplus to feed when the green is exhausted.—M. E. S.

### Nut Grass.

Is the grass which I send with the little bulblets or nodules, Johnson grass? What is the best means of getting rid of it or preventing its getting into my orchard?—W. A. A., Cucamonga.

This is not Johnson grass, but as near as can be determined from the limited specimen is nut grass, cocoa grass, or cyperus rotundas. Like many other weed pests the only sure way to control this is by thorough and persistent cultivation. At each cultivation or weed cutting be sure that none of the little "nuts" or bulbs, or any piece of the root are dragged from one part of the field to another. It is a troublesome pest, but may be disposed of by thorough work.

Sacramento Valley is shipping alfalfa hay to Humboldt Co.



60 H. P. Western Pumping Plant

# A Frequent Mistake

made by engine buyers is to suppose that one engine is as good as another, the only difference being in the price. Certainly, many engines can be bought for less money than the WESTERN and this fact sometimes leads the prospective purchaser to the conclusion that to buy a low-priced engine will be an economy. This is not so. The one essential of an economical engine is that it shall give the maximum service for the minimum expenditure. If it is cheapened to a point where it fails to do this, **any** money put into it is an extravagance.

In the WESTERN every detail of design and construction has been to reduce the fuel and maintenance cost to the lowest possible figure. That we have succeeded is being constantly proven where our engines are installed alongside other makes, doing the same work, under the same conditions, developing **more** power, with **less** fuel.

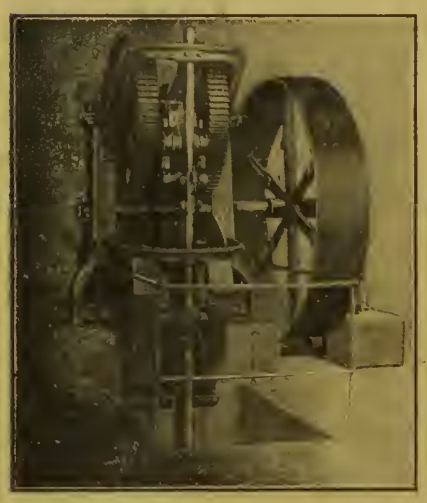
Write for Catalogue.

Have you heard of the Nix-Frost Crude Oil Gas Producer? It's "The Cheapest Power on Earth."

## Western Gas Engine Company

**Northern Branch: San Francisco, Cal.** **Los Angeles. Cal.**

# The Smooth Running, Noiseless Pomona Deep Well Pump



It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

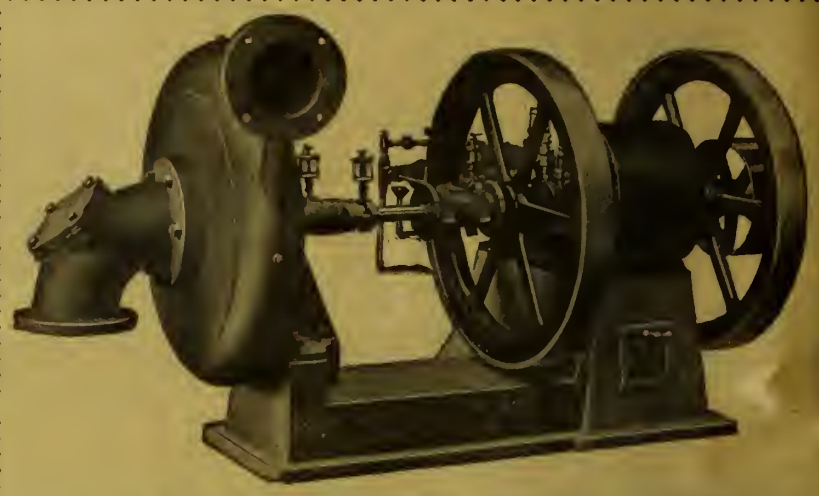
This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.

## POMONA MANUFACTURING CO.

**POMONA, CALIFORNIA**

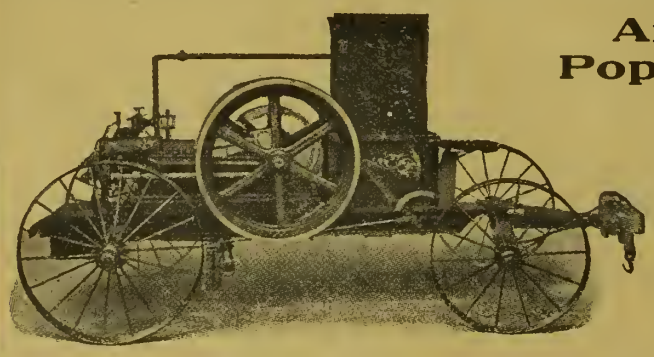


# BYRON JACKSON IRON WORKS

CENTRIFUGAL PUMP DIRECT, CONNECTED TO GASOLINE ENGINE. WRITE FOR BULLETIN 32.

**SAN FRANCISCO** 351-355 Market Street
**LOS ANGELES** 212 N. Los Angeles St.
**SPOKANE, WASH.** **SEATTLE, WASH.**

# Lambert Portable Engines



**Are Popular**

**2 1-2 to 20 Horse Power**

**Because** Guaranteed to develop 10% in excess of rated H. P. Rigid construction and moderate weight. **Costs Less** than others not as good. Balanced centre crank prevents Vibration—most modern and effective cooling system. **We Believe** an inspection will convince you that the Lambert Portable Engine is far superior to any on the market, and we have made a price to get the business.

## Smith-Booth-Usher Company

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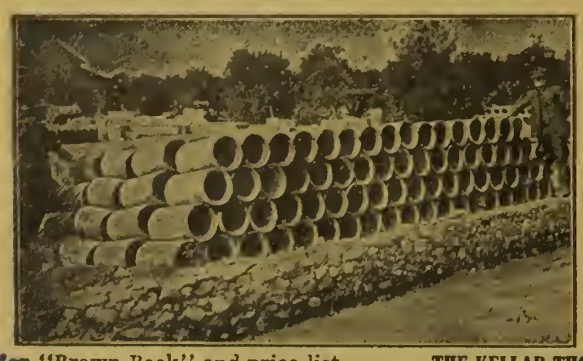
# Not too Heavy Not too Light But Just Right

Send for Bulletin No 12.

## COMMERCIAL ENGINE CO.

**951-955 No. Main St., Los Angeles, Cal.**



From photograph showing amount of

**Ten-Inch Pipe**

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

**"K T" Moulds**

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

**THE KELLAR-THOMASON MFG. CO., Covina, Cal**

# More Water! Less Power! Longer Life! Less Money!

The American Pump has come to stay because every man that is using one is boosting for it. Get our prices and our guarantee before placing orders for irrigating plants. Send us your name and we will send you some interesting catalogs.

## HENSHAW, BULKLEY & CO.

**262-264 South Los Angeles St., Los Angeles Cal.**

# Second Hand Irrigating Plants

Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

## Western Machinery Company

**230 Main Street, San Francisco, Cal.**

# California Cultivator

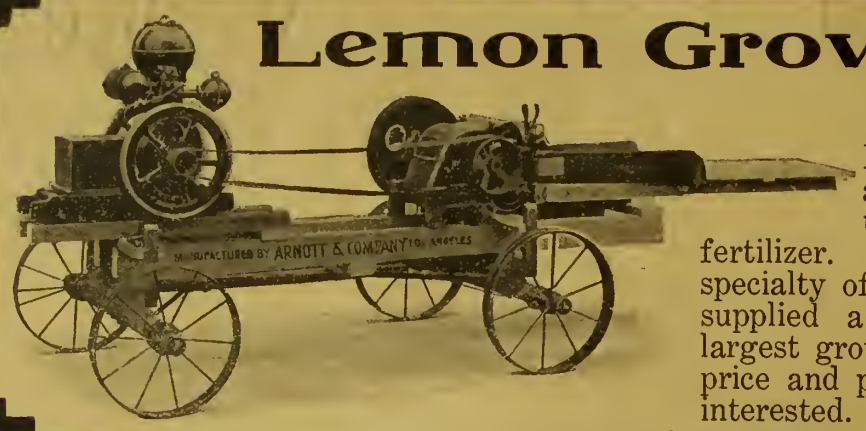
An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles September 16, 1909 San Francisco

## On the Road to San Gabriel Mission

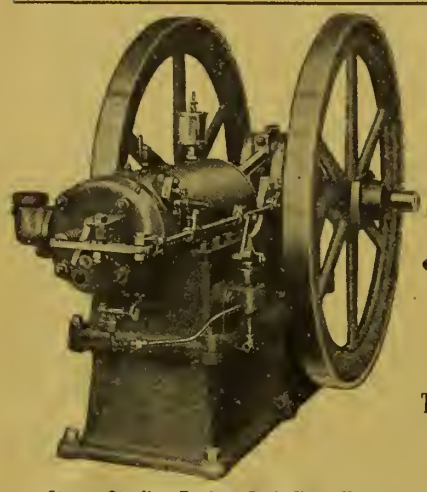
# EVERYTHING FOR THE RANCHER.

## Lemon Growers




Chop up your lemon prunings and cultivate them under for fertilizer. We have made a specialty of these rigs and supplied a number of the largest growers. Write for price and particulars if interested.

ARNOTT QUALITY GUARANTEED **ARNOTT & CO. INC. 112-118 So. LOS ANGELES ST., LOS ANGELES, CALIF.** ARNOTT QUALITY GUARANTEED



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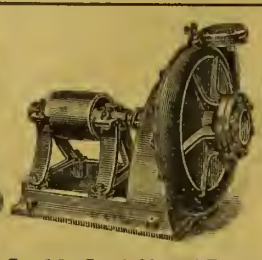
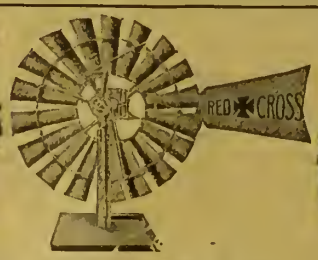
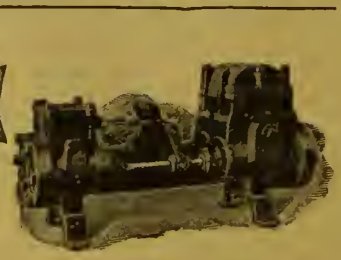
They develop more than the rated horsepower. Simple, Durable, Easily Operated, Economical in Fuel Consumption and Guaranteed. We carry in stock from 2 to 50 horsepower.



Goulds Centrifugal Pump




Red Cross Wind Mill



Steam Pumps

## Woodin & Little
### Pump House

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**Pumps for Every Service and Use** Pumps for Hand, Wind Mill, Power, Steam, Irrigating, Spraying, Whitewashing, Road Sprinkling, Wine, Ship Use, Air, Centrifugal and Rotary Pumps, Oil Pumps, Goulds Triplex Pumps; all sizes and capacities.

**Gasoline Engines, Wind Mills and Tanks, Pipe, Pipe Fittings, Brass Goods**

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**$1.90** Express Prepaid

Money refunded if not satisfactory. Just the thing for stretching wire and butchering hogs and calves. It lifts and pulls anything. Automatically grips the rope at any point. Order today and send for catalogue of wire fences.

**Pacific Fence Construction Co.**
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## Make More Money
By cleaning your grain with a

**Chatham Fanning Mill and Bagger**
Take out all the foul seeds. The Chatham will do it—and it will clean all kinds of grass seeds. Trirty days free trial. Freight prepaid to your depot. Write for big catalogue.

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180 Union Ave.
PORTLAND, OREGON.

## Sulphur Spraying Machine
**For Dry Spraying**

### The Vermorel "Torpille"
**Celebrated French**
### Knapsack Sulphuring Machine
**The Machine That Will Save You Money**

Read what Prof. Bioletti has to say about this machine:

In reply to your favor of October 12th, regarding our tests of the Vermorel Torpille Sulphur Machine, I will say that it has given us very good results. We have been able by means of this machine to sulphur the vines in the most satisfactory manner with a much smaller amount of sulphur than with any other machine we have tested.
(Signed) FRED T. BIOLETTI,
Professor, University of California, Berkeley.

We have arranged for only a limited number for importation; place your order with us now for February delivery.

**F. W. B. Resublimed Flowers Sulphur** is the best for use in this machine.

**Price $15 Each f.o.b. Los Angeles or San Diego**

**Distributed by**

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**San Diego**
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**Los Angeles**
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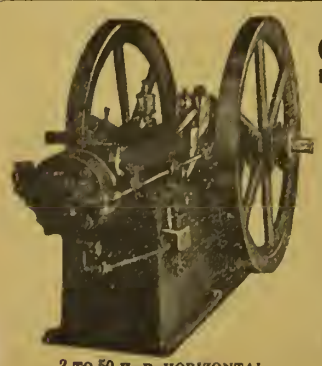

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## STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

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Are now required for all Fruit Packing Houses which seek to economize and systematize the handling of fruit. Trucks should be abandoned and A-F Gravity Conveyors installed for carrying boxes from packers to presses, thence to storage and cars.

**SEE THE A-F CONVEYORS IN OPERATION AT**

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# California Cultivator

Vol. XXXIII—No. 12 Los Angeles, California, Thursday, September 16, 1909 Subscription $1 a Year

# Lemon Growers Have a Day of Profit and Fun

## The Lemon Men's Club of Southern California Meets at San Fernando and Enjoys the Day and Discusses the Future of the Industry

"WILL lemon growers be permitted to secure the benefits from the one and a half cent lemon tariff, or will they be taken by the railroads," was the question which, though somewhat tempered down from these words, was put by members of the Lemon Mens' Club of Southern California to representatives of the two big transportation lines, who were present at the meeting of the club at San Fernando last Saturday, Mr Jno J. Byrne of the Santa Fe and Mr. T. A. Graham of the Southern Pacific.

### No Dullness.

This meeting was one of the most important held by the lemon mens' club and called out a representative attendance from every section of Southern California. Its object was to have a rousing good time, and the motto of the day seemed to be, "All work and no play makes Jack a dull boy." The train which brought a greater number of the members from the south arrived about eight thirty and was met by the lemon men of San Fernando Valley who took the visitors on a sight seeing trip to representative orchards.

### A Lemon Squeeze.

The gathering at which this question was put to the representatives of the railways was held under the big trees at the home of Mr. and Mrs. C. D. Hubbard, and was for the purpose of perusing a most attractive bill of fare and testing the excellent cooking of Mrs. Hubbard. Nearly three score of tender white Wyandottes gave up their lives to make the feast To use an expression of the day, "They were handed a lemon." In fact, the entire meal was on the citrus order. It was a lemon squeeze in earnest from the soup which was served in the hollowed out half of a lemon rind, olives likewise served in lemon "dishes," lemon salad, lemon pies, to the strongest drink served at the banquet, which was tinged with the lemon juice.

While the visitors were enjoying this banquet Mr. C. C. Teague of the Limoneira Co., of Santa Paula, President of the Club, called for order and announced that as the time was to be so taken up with auto trips and practical demonstrations of methods in the orchards, instead of waiting, as usual, till the close of the feast for the speaking, he would ask the speakers to forego their chicken for the time being and address their remarks to the others while the banquet was in progress.

### California Can Supply.

Mr. A. F. Call of Corona referred to the efforts of the committee which was sent to Washington by the lemon growers of California to secure an increase in the lemon tariff. He gave to Senator Flint much credit for the work which was accomplished. However, we noted through the assembly many warm expressions of commendation for the work of Mr. Call and his committee. The main point in Mr. Call's talk, and perhaps the principal thought of the meeting was to emphasize the necessity of greater care in growing, in picking and packing the fruit. No matter how high a protective tariff shall be given to us or how low a freight tariff, indifferently packed fruit or low grade fruit can only bring disaster to itself and to other fruit of better grade from the same sections. Mr. Call said that of the 12,000 or 14,000 cars of lemons necessary to supply the United States California is producing only about one-third. This is the first year that the output has ever exceeded 5000 cars. With the present lemon tariff and the quality of fruit which it should encourage growers to put up, the lemon production should be doubled within a very few years. One attendant at the club meeting remarked that the present acreage in lemons in California, if given the right kind of care, could easily be made to double the present output. This does not consider the young trees yet to come into bearing or yet to be planted. Mr. Call asserted that without question, California has the capacity to supply the entire United States with every lemon it needs. He paid a high tribute to the California fruit growers exchange which as a co-operative marketing proposition is not equalled in the world.

Judge Hutton of the Superior Court of Los Angeles County gave a tribute to the San Fernando Valley and its business, saying that "There is an opportunity for every man with two strong hands who will intelligently study the lemon industry, particularly when the transportation lines do as much for us as Congress has."

### Scientific Investigation.

Prof. A. J. Cook of Claremont presented the matter of securing the help of an expert from the Department at Washington along the line of fertilizing, that is, in scientific investigations into the needs of the soil under California conditions. He referred to the fact that the University has for the past few years been conducting experiments along that line, but that the question was so important that the Department should give us further aid in the matter. Professor Cook referred to the grand work of Messrs Powell, Woglum and others, also to the fact that Mr. Shammel of the Department is now taking up the matter of improving quality of citrus fruit by selection and breeding The only reason advanced by the Department why this work should not be taken up was that California has already received freely along this line of investigation But the need is great and if the help can be secured, no effort should be spared toward getting it. He closed his remarks by making a motion that a committee of three be appointed by the chairman to draft resolutions and forward to the Department to secure, if possible the appointment of such an expert.

In the matter of the freight tariff there was no particular discussion other than that the representatives of the railways both assured the lemon growers that the industry would be justly dealt with.

"The lemon industry is one of the greatest likely to be developed in California, and while the tariff may help it, the great secret of success, as has been demonstrated by Mr. Powell and his assistants, is to do our work well, to handle the fruit carefully and methodically and study our conditions. This is the great secret of putting our oranges and lemons on the market sound and is more important than any other one thing." These sentences give the substance of the remarks made by Mr. E. A. Chase, head of the National Orange Co. of Riverside. Mr. Chase knows whereof he speaks in the matter of care in the packing of fruit. He has been one of the closest followers of Mr. Powell's methods, and the prices his fruit has secured in the market are a strong recommendation in favor of care in its handling. While orange groves are the principal part of Mr. Chase's holdings in the Riverside section, he has also 200 acres of lemons on the side.

"Colonel" J. A. Reid recently returned from Florida with the glory of a newly acquired title, gave a few points regarding the organization of the citrus interests of Florida. Mr. Reid's remarks will be given more at length in next week's Cultivator.

### Might Ride in his own Auto.

Mr. H. C. Hubbard incidentally remarked that if he had begun raising lemons many years ago when he began raising wheat he would now be riding in his "own automobile instead of that of Los Angeles County." Mr. Hubbard had been the guest of Mr. Dingle in the County machine during the forenoon.

### In the Orchards.

After the banquet many of the members of the Club visited the orchards of Messrs. Reynolds, Wilkinson, Bartlett, Huff, Meyers, Hubbard, and the Mission Land Co., and discussed methods of working especially manner of pruning. Liberal criticisms were made on methods of pruning but, of course, it was admitted that it was a matter in which there was room for difference of opinion. The orchards surely showed a fine lot of fruit, sound, and some ready for picking. The orchardists in question had made efforts in the past to improve their soil conditions by green manuring, but owing to the trees being so large indifferent growth only had been secured. Stable manure was preferred where it could be had.

### The Ride.

The autos during the forenoon had taken the visitors to the large Ford orchards where they viewed 185 acres of as beautiful orange trees as one ever saw. The water for the irrigation of the entire 185 acres is lifted 130 feet. As was remarked by one of the visitors, "An orchard that was given only ordinary care could not stand the expense of such a lift of water, for indifferent care would surely bring indifferent results." The pumping plant in use is entirely up-to-date, a steam plant with the ordinary deep well pump head with an additional steam pump at the surface of the water. The Tom Walker lemon orchard was also inspected. It was being irrigated at the time by the furrow system, the water being lifted by gas engines. This orchard, now in its fifth year was remarkable because of the size and thrift of the trees.

One station of the trip which was interesting to all was the plant of the Los Angeles Olive Growers Association which puts up the famous Sylmar olive oil. It was indeed most complete from crusher to presses and the large glass lined tanks with a capacity of 40,000 gallons. These are now full of last year's crushing which will soon be pumped out, run through filters and bottled for next year's business.

The beautiful homes of Messrs. John Burr and F. L. Boruff were both visited.

(Continued on Page 276.)

You know what is in the food you buy. The law gives you that protection.

Why shouldn't you know what is in your roofing so that you may be sure of your buildings' protection?

**Genasco Ready Roofing**

is made of Trinidad Lake Asphalt—Nature's absolute waterproofer that doesn't crack, rot, break, or leak.

Ask your dealer for Genasco, and thus make sure of economical and lasting protection for every building on the farm. Mineral and smooth surface. Guaranteed in writing and backed by our thirty-two-million-dollar organization. Look for the trade-mark; take no substitute. Write for samples and the Good Roof Guide Book

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Largest producers of asphalt and largest manufacturers of ready roofing in the world.

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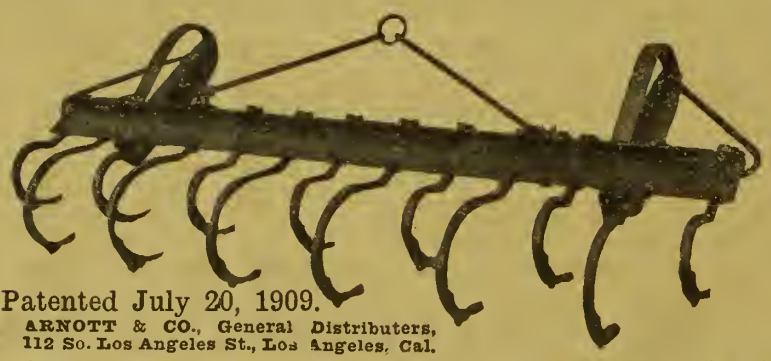
**WILLIAMS' GOOSE-NECK CULTIVATOR**



Patented July 20, 1909.

ARNOTT & CO., General Distributers, 112 So. Los Angeles St., Los Angeles, Cal.

Especially adapted for citrus orchards. Sizes 6 to 14 Feet. Lightest draft. Write today

*WILLIAMS & SON, Manufacturers*

*Orange, California*

**BOSTROM'S $15.00 FARM LEVEL**

***With Magnifing Glasses in the Telescope***

enables you to read Target at a distance of over 400 yards, therefore the problem of a FARM LEVEL with TELESCOPE at moderate cost has at last been solved. Voluntary letters from every State in the Union show the complete satisfaction it gives for all kinds of **DRAINAGE WORK, IRRIGATION, DITCHING, TERRACING** and every sort of farm work requiring a Level. GUARANTEED to be absolutely SIMPLE, ACCURATE, DURABLE and dependable in every respect.

**Complete outfit** with full instructions, shipped anywhere C. O. D. **$15.00** and express charges. **Subject to Examination.**

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**The Roessler & Hasslacher Chemical Co.**

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**Works: Perth Amboy, N. J.**

**CYANIDE** guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

**FOR SALE BY**

**F. W. BRAUN - Los Angeles and San Francisco**
**HAAS BARUCH & CO., " "**

**200,000 SOUR ORANGE STOCK**

For 1910 spring planting. Every plant from Genuine Selected Florida Sour Seed, and I can prove it. Also sweet stock. **Don't** buy uncertain and inferior grown plants. This is nursery gospel. **Don't** waste time and money on 6 and 8-in. plants when you can get them twice the size for the same price. **Don't** take my word for it; come and see the plants in seed-bed and nursery. Plants are 9 to 12 inches now, with 9 more months to grow.

**Contract Now, Get the Best and Save Money**

**See Them at 232 So. Marengo Ave. Alhambra, California**

**Chas. S. McMillan, Citrus Nurseryman**

***NITRATE OF SODA***

We are prepared to furnish Nitrate of Soda at the lowest market price, and will be pleased to quote prices and furnish literature to any one interested, on application. Advise us what crops you are interested in.

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When writing advertisers, mention Cultivator.

# Citrus and Sub-Tropical Fruits

## FUMIGATION DOSAGE FOR THE PESTS OF CITRUS TREES.

There appears to be a misconceived idea among a number of people interested or engaged in the practice of fumigation regarding the use of my Dosage Schedule I. (printed in Cultivator of August 19.)

This dosage schedule in itself must not be considered as the most suitable strength to use for all the different species of citrus scale pests, at all times of the year, or in all localities in Southern California in which citrus fruits are produced. For a single table to meet all these requirements is an impossibility. A dosage which will result in satisfying execution of the red scale will not produce as good results against the purple scale, while the mealy bug is even more difficult to destroy than either. Moreover, a dosage which will destroy a certain species of scale near the coast probably will not produce as satisfactory results against the same species in the warmer interior valleys as at Redlands, Riverside, etc., where the atmospheric conditions at night are generally much less numid.

The intention of Schedule I as stated in numerous discussions and published articles on fumigation is that of a basic or fundamental dosage; a schedule which, if not suitable in itself for a certain scale under certain conditions, is so prepared as to allow the easy and accurate preparation therefrom of other schedules of dosage strength to meet the desired conditions. If Schedule I is heavier than is required for a certain scale pest under certain conditions, that schedule can be easily reduced to any strength desired merely by reducing each dosage number in Schedule I at the same rate, say ⅛ or ¼ or 1-3, etc.; if Schedule I is not as heavy as is required it can be changed to meet their requirements by increasing the schedule after the manner just mentioned. Thus we see that Dosage Schedule I can be so manipulated as to produce a schedule of any strength desired, the great advantage being that the resulting schedule will also be one of uniformity so far as results in the field are concerned. Dosage Schedule I in itself, however, meets more requirements and can be used probably more generally than any other single dosage strength.

### Purple Scale.

For lemons, Valencia, navel and seedling oranges I would advise Schedule I in use against the purple scale in all regions in this state where this insect occurs. The preferable time for fumigation is from about the middle of August to November. It can also be carried on safely at other times except when the fruit is of small size. For discussion of this subject see Bulletin 79, United States Bureau of Entomology. This Bulletin entitled "Fumigation Investigation in California can be obtained by writing Chief, U. S. Bureau of Entomology, Washington, D C St. Michael and Homosassa are frequently burned to some extent unless the dosage is decreased. It is a disputed question in the case of these two varieties whether to decrease Schedule I by ¼ to avoid burning, or to use full Schedule I, holding that the loss from burned fruit is more than offset by the extra amount of scale destroyed by the heavier dosage.

### Red Scale.

For red scale in the citrus growing regions near the coast Schedule I can be decreased ¼; or, in other words a ¾ schedule will destroy the red scale in this region. The three-fourth schedule might possibly be inadequate in the dryer interior valleys, the full No. I schedule being required. Experiments are in progress at this time to settle this particular point.

### Black Scale.

The dosage used for the black scale depends upon the condition of the scale. While young and soft, a ½ schedule, or Schedule I decreased ½ will prove satisfactory. After they are grown and become leathery a full Schedule I is required.

The above recommendations are for the character of tents in general use in Southern California. Oiled tents, or tents treated with concoctions which make them very much tighter than the untreated duck or drill require a decrease from the above. Such tents are at present very few in number.—R. S. Woglum, Special Agent, U. S. Bureau of Entomology, Whittier.

## COMPOSTS AND COMPOSTING.

Frequent requests are made for compost formulas, and the following one, with barnyard manure, rich dirt, or woods mould, or all, and acid phosphate and kainit, is well suited for general use:

| | |
|---|---|
| Barnyard manure, rich dirt or woods mould | 1,750 pounds |
| Acid phosphate | 200 pounds |
| Kainit | 50 pounds |
| | 2,000 pounds |

With average barnyard manure the above compost would contain: phosphoric acid, 1.7 per cent.; potash, .7 per cent., and ammonia, .6 per cent. One ton of this compost is worth between 500 and 600 pounds of the average fertilizer containing 8 per cent. of available phosphoric acid, 2 per cent. of potash and 2 per cent. of ammonia. It should be applied at the rate of 600 to 1,600 pounds per acre in the drill, 1,400 pounds of the compost being about equal to an application of 400 pounds of the 8-2-2 fertilizer.

The compost may be made under shelter or out of doors. In either case select a place where the soil is compact, and arrange it so that the water that may run through the heap will not drain from it. Put down the materials in alternate layers—first, a layer 3 to 6 inches thick, according to the size of the compost to be made, of the manure, woods mould, or rich dirt, then sprinkle upon this layers of acid phosphate and kainit, and continue in this way to put down alternate layers of the materials till the compost is complete. If dry, the manure, mould, etc., should be moistened by sprinkling with water, and the heap should be brought to a conical or wedge shape, covered with dirt, preferably rich dirt, and thoroughly compacted to prevent undue

entrance of air, which brings about heating and injurious fermentation of the heap. The compost must be watched, and if it becomes hot a hole should be made in the side and towards the top and water poured in to cool it. Heating is likely to occur if made under shelter, while if made out of doors in the winter and early spring the rains are apt to be sufficient to keep it moist, but here there is danger of loss, especially of the very soluble potash and phosphoric acid, from leaching, and the heaps made out of doors need careful watching to see that they do not get too hot just after making and between rains, and more especially to see that they are thoroughly covered with dirt and compacted, so as to make the water run mostly off the sides instead of through the heap and draining off with the most valuable part of the manure. The heap should remain 40 to 60 days, and may stay longer. Before using, it should be thoroughly cut up and mixed by means of hoes and shovels. If the manure, woods mould and dirt are reasonably free from litter and trash, the mixture may be put through a sand screen and be in condition to drill as other fertilizers are. This will require care in selecting the manure, mould and dirt.

Unquestionably, there is great advantage, if it is not, indeed, an absolute necessity, to save scrupulously all the manure and other waste material on and around the farm to assist in maintaining or increasing its productiveness. One way to do this is to use the compost in some way similar to that suggested in the foregoing. Another and perhaps somewhat cheaper way, unless the compost is made at a time when the farm labor is not profitably occupied with other work, is to apply the manure and woods mould, etc., broadcast where there are large quantities of them, or in the drill when the amounts are limited and less than 1,500 to 2,000 pounds to the acre, and drill the acid phosphate and kainit or other materials on them. This saves the cost of mixing. Each plan has its advantages, and each farmer can decide for himself which best suits his individual case and which will enable him to save to best advantage these exceedingly important and valuable fertilizer materials on and about the farm and which go to waste, or partial waste, in far too many instances

**Use Lime in the Compost.**

Where lime is used at all in the making of compost, it should not be put in contact with either the barnyard manure or acid phosphate, as it has an injurious action on both of these, endangering the loss of ammonia from the manure by setting it free and enabling it to pass off in the air, and changing the phosphoric acid of the acid phosphate into an insoluble form. Where sour muck or black soil is used, the lime mixed with these would correct their acidity or sourness and prove beneficial.

## HAWAIIAN NOTES.

A letter from Mr. W. B. Thomas a few years ago an owner of the Cultivator and now a fruit grower in Wahiawa, Hawaiian Islands, sends the following interesting items:

As you are no doubt aware, there are not many engaged here in farming as it is practiced in the states, but the number of cultivators of small tracts is growing.

The strike among the Japanese laborers that has been going on for three months was broken last week by the strikers going back at the old prices. No concessions were made by the planters. The latter, however, are alive to the fact that they have heretofore depended too much on Japanese, and agents have been sent to Portugal and Russia to recruit men from those countries. A special income tax was levied by the territorial legislature last winter to raise money for the purpose and already a fund of $85,000 is available.

The pineapple harvest is now on and the crop is large and the fruit fine. The canneries are all running to their full capacity. Wahiawa is now the center of about 6000 acres of pineapples.

The advertising that is being done in the magazines is returning good results, and it is proposed to continue it indefinitely at the rate of $50,000 to $75,000 a year.

The growing of tobacco and cotton looks attractive to a good many here now and it would not surprise me to see both these industries take a prominent place in island agriculture before many years. Tobacco is past the experimental stage, but it will take another year or two to tell positively what can be done with cotton on different kinds of soil, elevations, etc.

Jared G. Smith, who for ten years was the head of the U. S. Experiment Station here, last year resigned his position to go into tobacco raising. Mr. Smith started the tobacco experiments made by the Station, and has lots of faith in the business. His plantation is at Kona, Hawaii, and will this year produce over 50 tons of fine tobacco.—W. B. Thomas.

During the fiscal year 1907-08 the following permanent improvements were made in the national forests. Thirty-four hundred miles of trails, 3200 miles of telephone line, 100 miles of wagon road, 40 miles of fire line, 250 bridges, 550 cabins and barns and 600 miles of pasture and drift fences. In addition to the sum provided by the special improvement fund, over $100,000 from the general fund of the service was turned from current expenses to defray the cost of this work, but much of the work planned and urgently needed could not be carried out because there was nothing with which to pay for it.

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**Enjoy the Safety of This Big City Bank**

Keep your surplus funds here; profit by the definite accumulations of our savings funds. You can bank with us by mail.

**3% Interest Paid on Minimum Monthly Balances of $300 or More, Account Subject to Checking.**

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Alexandria Hotel Building

**5th and Spring Streets, Los Angeles, California**

**All About the Orange and Lemon**

Is told in our new book on Citrus Culture, embracing every phase of the subject from the seedling plant to the final disposition of the fruit in the Eastern market. The largest and best book on the subject ever printed—60,000 words, 100 illustrations. You will want a copy, which we will send you for the small sum of 25 cents. Remember we are the largest growers of orange and lemon trees in the world.

**THE SAN DIMAS CITRUS NURSERIES**

**San Dimas, Cal.**

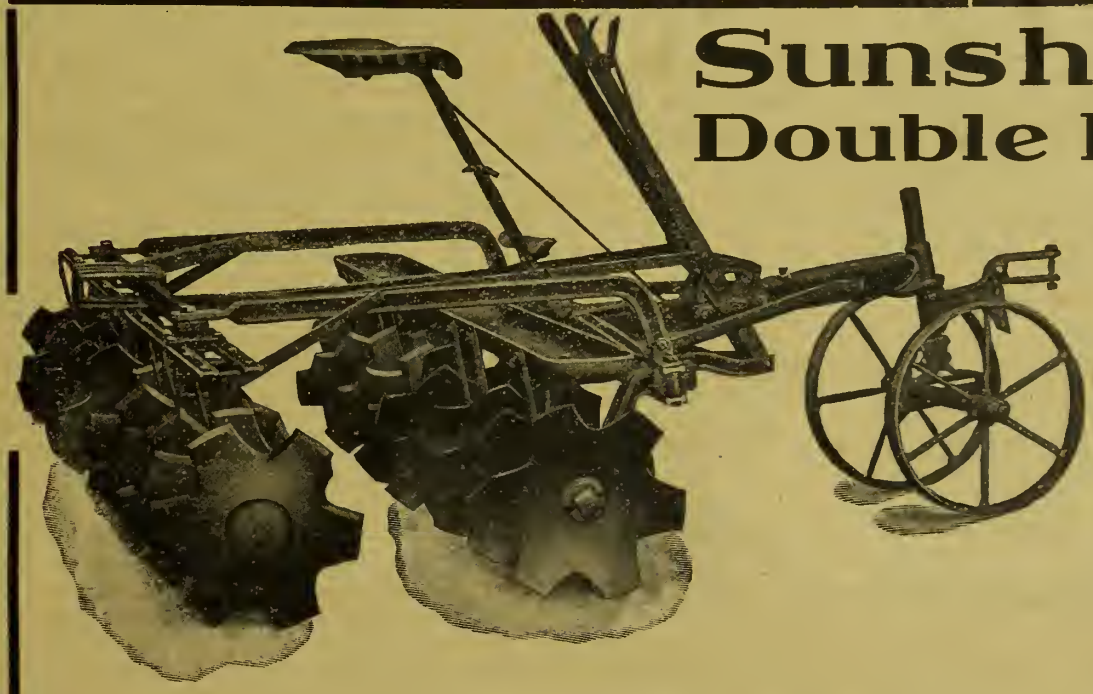
**Orange Trees For Sale**

**Navel and Valencia.**

**J. S. Killian, El Monte, Cal.**

**Phones: Sunset, 8x4. Home, Red 31, or, L. C. Rice, Tropico, Cal.**

**Phone Sunset Glendale, 263**



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The ideal implement for cutting up cover crops and for orchard cultivation.

The 'Sunshine' can be changed from a Double to a Single Disc Harrow in a few minutes' time.

Write for full particulars to

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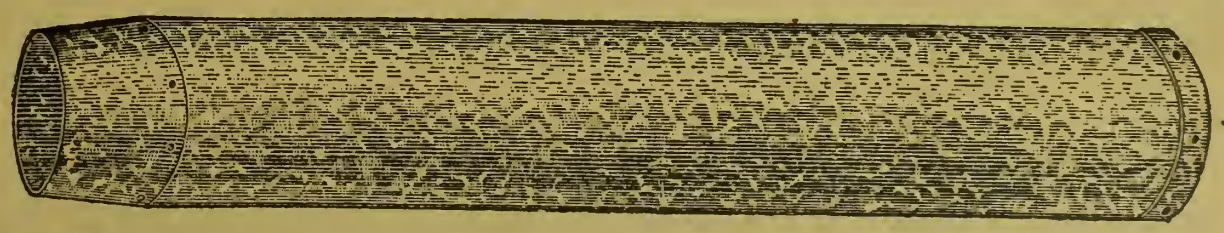

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"John, you're just the man I want to talk to. You know I'm going to build a new barn. And I don't want to make any mistake about the roof. I had too much trouble with the old roof. Always needing repairs. I guess there wasn't a year that I didn't have a lot of spoiled hay or something, on account of those everlasting leaks. This time I want a roof that won't leak like a sieve, and that'll last awhile'.'

"Well, you can take it from me, Tom, Rex Flintkote is in every way the best roofing you or anybody else can get. After fifteen years my roof doesn't show a single sign any place of being any the worse for wear. Never cost me a solitary cent for repairs."

"Well, you've put it pretty strong, John. Now, what I want to know is *why* Rex Flintkote Roofing is best. You know there are two or three other roofings that are claimed to be the Best-in-the-World."

"Listen. You see Rex is made of long-fibre wool-felt. Now, wool-felt is something that lasts like eternity. Look how a good 'slouch' felt-hat wears—forever, almost. Then this hard-packed wool-felt is thoroughly saturated and impregnated with a special compound that protects against decay. Rain can't soak through that combination—the sun can't soften it—and it's proof against the action of the oxygen in the air, and all those things that so eat the life right out of other prepared roofings."

"That's good, John; now how about fire."

"Send for a free sample. Try it with a live coal of fire—prove for yourself that Rex Flintkote won't catch fire. Just write to the manufacturers. They'll also tell you just what dealer to go to. And they'll send you free a mighty good book about roofing. Remember, look for the Boy trademark on every roll. Better write to-night, Tom, before you forget it. Here's the address:

**J. A. & W. BIRD & CO.,** 89 India Street, Boston, Mass.

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MORSE'S TULIPS FOR CALIFORNIA

# Morse's Tulips

Especially adapted to California.

Long Stemmed, Gorgeous Colors.

New stock of Holland, Japanese and other Bulbs just arriving.

Send your name and address for our 1909 Fall Catalogue.

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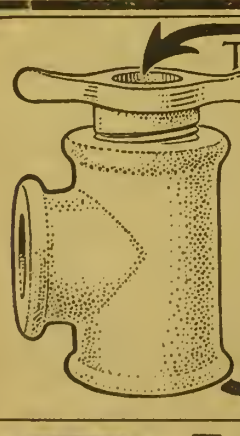

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Simple in design and construction, costs less and will last longer than any other on the market.

The Tee Irrigating Valve is made of an ordinary malleable iron T with a brass plug. It is designed for those who want an inexpensive irrigating valve, especially where such valves are needed in large quantities.

There is nothing to get out of order. It is so simple you will wonder why it was never thought of before.

A ½-inch valve sent post paid upon receipt of 40 cents. Quantity price, circular and full information upon request.

Address **George C. Roeding, Fresno, California**

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Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

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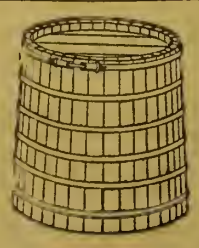


When writing advertisers, mention Cultivator.

# Deciduous Fruit Culture

## UNFERMENTED GRAPE JUICE.

OWING to repeated requests we reprint the following which was written by Mr. Mills for the Cultivator of September 12, 1907:

Unfermented grape juice is a refreshing and nutritious beverage that may be had by all farmers who have a few grape vines. There are several large grape juice factories in California, in which much special machinery is used for the purpose, but for the farmer who wishes to put up a few gallons, this is not necessary. By following a few simple principles the work can be satisfactorily done.

### Extracting the Juice.

Grapes that are fully, but not overripe, are selected, thoroughly washed in clean water after removing any parts of bunches that may be decayed. If an ordinary fruit press is at hand, the grapes may be ground and pressed through that. Not having this, place the grapes in an open vessel and crush with a potato masher. It is better when making a small amount of juice to pick the grapes from the stems. After the grapes have been well crushed, put them in a cotton bag of rather loose web and extract the juice by twisting. If the weather is cool, it may be hung up and allowed to drain over night. A colander may be used by placing a plate on top of the bag and a heavy weight left on over night. Place the colander in an earthen dish.

### Filling and Sterilizing.

Fill quart fruit jars, if nothing in glass jars is at hand, to within an inch of the top; place in a wash boiler with a wooden rack in the bottom so as to keep the jars off of the metal bottom, fill with warm water to within an inch of the tops of the jars and heat till the temperature is 185 degrees Fahr. Have the metal tops of the jars in a pan of boiling water ready to put on the jars. Place over the tops of the jars circular pieces of filter paper which can be bought at any drug store, and screw the tops down over them. Two papers on each jar should be used. Set the jars away in a cool place for a couple of weeks when the sediment will have collected in the bottom.

### Clarifying.

If it is desirable to bottle instead of putting the juice in jars, fill the bottles within an inch of the point below where lower end of the cork will be when inserted. Place the jars in the wash boiler as indicated above. Be sure to have the wooden bottom in the boiler. Heat the water to 180 degrees and allow it to stay at that temperature for twenty minutes. Have new corks handy in a hot parafine bath, take them out with a pair of tweezers and place them in the mouth of the bottles before taking them out of the water. The bottles must be removed from the hot water immediately after inserting the corks or they will be forced out by the generation of the steam. The corks should be forced into the bottles at once and resealed with a light painting of hot paraffine. This will so completely seal the contents of the bottle that there will be no possible chance for it to become inoculated with the elements of fermentation.

Should fermentation take place later on, it will have come from bacteria already within the juice or bottle.

Where the grape juice is for home use entirely and the presence of sediment is not objectionable, the second heating is not necessary, though it is much safer. The fungus spores that are in the liquid may not all be killed at the first heating and the second time they may be in a more susceptible condition when the heat will exterminate the last of them. When a clear juice is desired, it is necessary to heat twice. After heating the first time and allowing it to settle as described above, drain off the liquid and be sure not to allow it to get as hot as at the first heating or another lot of sediment will be deposited.

### To Give Color.

Zinfandel makes one of the best unfermented grape juices. Some of the sweeter kinds are sometimes used but they soon cloy while the more acid sorts do not. Most black and red grapes have a clear juice. If it is desired to have a colored juice a few skins of a black variety heated to nearly boiling will give a red juice that will give good color. There are several varieties of grapes that have red juice. Alicante Bouschet is, perhaps, the best. Manufacturers of unfermented grape juice pay an extra price for these grapes for coloring purposes.

## HOW TO OBTAIN MORE UNIFORM AND BETTER COLORED APPLES.

A large proportion of the poorly colored fruit from old orchards is caused by dense-headed trees and close planting, which prevent the free access of air and sunlight and delay the maturity of the fruit in the fall. The fundamental corrective in such cases lies in judicious pruning by means of which the fruit may be exposed to the sunlight.

In other cases the poor color may be due to a combination of heavy soil, tillage, frequent turning in of nitrogenous cover-crops, spraying, and neglect in prunning. These conditions stimulate the trees to active growth, the foliage increases in health, size and quantity, and as the water-holding capacity of the soil is enlarged by the incorporation of the cover-crops and is retained by the tillage, the trees grow late in the fall and the fruit does not properly color before the picking season arrives. It is often possible to overcome the difficulty by severely pruning the top to let in more air and light. If this treatment does not prove efficient, the cover-crops may be withheld, when the fruit will usually mature earlier in the fall, unless the season is wet. As an additional treatment where necessary, the growth of the orchard may be still further checked by seeding it down until the desired condition is attained.

It is not possible to secure a uniform degree of maturity and size when all the apples on a tree are picked at one time, as fruit in different stages of growth is mixed together on the same tree. The apples differ in size and maturity in relation to their position, the upper outer branches producing the large, highly colored and early ripening fruit, while

Germain SEED & PLANT Co. LOS ANGELES, CAL.

# Vetches

See last week's "Cultivator." Endorsed by all the leading Citrus and Deciduous fruit growers of Southern California as a

## Cover Crop

Forms a thick matting of herbage easy to disc and plow under. Supplies abundant humus and nitrogen.

Send for 1909 Catalogue.

# Scalefoe

Greatest Known Spray or Wash for Scale: San Jose, Black, Red, Purple and Brown. Also a sure thing for Red Spider, Canker Worm, Moss, Caterpillars, Lice, Codling Moth, and all Insects and Bugs that infest plant life; without injury to the plants, and with positive benefit to the soil, when applied.

This has long been the leading Spray or Wash in many sections of the country, wherever introduced. We have bought the formula and the rights for this section and are putting it out under our own brand. No article can bear the "West Coast" name unless it is the best of its kind. We guarantee Scalefoe to be just as represented. Send for circular with many testimonials.

Gallon can, 85 cents; 5 gallon can, $3.75. If not sold by your dealer will send gallon can for $1 or 5 gallon can for $4, freight prepaid by us within 200 miles. Write for price in barrels. Mix 20 parts water to 1 part Scalefoe, before using; makes it the cheapest as well as the best. Satisfaction or money back.

Made by the

## West Coast Mill

**Los Angeles, Cal.**

Makers of the celebrated

**GERMFOE and FLYFOE**

**$550** will buy the best ***88-NOTE*** Player on the market. Crown & Concord Pianos. 10-in. Disc Records 25c.
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the apples on the side branches and the shaded interior branches ripen later. Greater uniformity in these respects is approached by proper pruning and by other cultural methods, but the greatest uniformity can be obtained when, like the peach or the pear, the apple tree is picked over several times, taking the fruit in each picking that approaches the desired standard of size and maturity.

This method of picking is not usually adapted to the apple merchant who buys the crop of a large number of orchards, and who cannot always secure efficient or abundant labor, but to the specialist who is working for the finest trade and who has a storage house, near by or a convenient refrigerator car service to a distant storage house, the plan has much to commend it.—M. B. Waite.

### REPUTATION OF FRUIT AS A COMMERCIAL ASSET.

Speaking of investigations in the co-operative fruit marketing organizations of the northwest a New York orchardist speaking before his state convention said:

"Among the fruit growers' organizations in Oregon the two associations which have been the most successful have been the Hood River Fruit Growers' association and the Hood River Apple Growers' association. The former of these organizations confines itself for the most part to the marketing of strawberries. These two associations have been managed from the start with a view to establishing the highest possible reputation for their products. The members are not allowed to pack their own product, but, if they engage in the work of packing, they work on fruit grown by other members. I believe I am justified in saying that the associations have succeeded in acquiring for their product a reputation which assures them the highest prices paid for strawberries and apples in the United States. It is now possible for the Apples Growers' association to sell its fruit to merchants in eastern cities at high prices without inspection.

I have no doubt that it will be found necessary in the near future to have all fruit in any one package of uniform quality and size, as near as may be, and this can be best brought about through associations of growers, as in this way the temptation to place poor fruit in the interior of a package can be reduced to the lowest possible limit. An association, also, by reason of the greater volume of fruit handled can acquire a deserved high reputation for honest packing and good fruit much sooner than the individual growers could do with their limited output and multiplicity of brands.

In handling cured prunes the Willamette Valley Prune Growers' association did very valuable work in introducing Oregon prunes under favorable auspices in England and throughout the United States and making for them a market which did not exist and which the ordinary methods of handling through merchants developed so slowly that without the work of the association there would not yet have been a demand for more than a fraction of the crop produced, whereas, as a result of the work of the association, there is now a profitable market for all the cured prunes produced in this state."

Kerman alfalfa growers are now delivering from their fourth cutting.

### NUT GROWERS CONVENTION.

The eighth annual convention of the National Nut Growers Association will be held in Albany, Georgia, October, 12-13-14.

Last year seventeen states were represented at the annual gathering at Chattanooga; but this year's meeting promises to far exceed any previous one both in interest and attendance.

A most interesting program is being arranged for this meeting that will practically cover all phases of nut growing.

There are more pecan orchards within seventy-five miles of Albany than within any other equal area in the world.

In planting a commercial orchard of any sort of fruit it is unwise to plant too many sorts. There is more money usually from a large flock of trees of all one kind, if they are a good commercial kind, than from the same number of trees of several different kinds. Mixed lots of fruit can never be handled with as much satisfaction as a large crop of one or two kinds. But a family orchard should have as large a variety as possible and of the best eating fruit.

The origin of the cultivated apple will always remain indefinite It is known to date back to the beginning of the Christian era, when the Romans cultivated a few varieties of apples.

The beet harvest at Hamilton City began September 2nd.

**TREES** of All Sorts

25 years experience in growing nursery stock. 1500 acres devoted to the business. California Horticulture, The Fruit Growers Guide, fully illustrated, describes 2000 different varieties of trees and plants. Contains valuable information. Sent post paid for 25 cents in stamps.

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Geo. C. Roeding Pres. & Mgr.

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# HYDRATED LIME

1 part Taylors Hydrated Lime
3 parts best Resublimed Flowers Sulphur ..... mixed in a common mortar box

Has given highly satisfactory results in many orange groves, gone over by several different contractors using largest power machines, as a dry spray for the

**Red Spider of the Orange**

Hydrated lime is the ideal diluent and vehicle for the sulphur—and reduces the cost.

**$15.00 a ton net in 100 lb. sacks. Sacks 15c extra.**

**W. H. TAYLOR** 846 Commercial St. Los Angeles, Cal.

or

**J. S. SCHIRM** 4th and K Streets San Diego, Cal.

## Paper Berry Baskets

Better and cheaper than wood.
Send for samples and prices to

**E. F. ADAMS, Petaluma**

**Mfr. of Egg Cases and Fillers, Paper Boxes, Etc.**

Portland is receiving 300 cars of wheat per week.

## WE HAVE the STOCK

**Grafted Walnuts** Best stock in the State; every tree guaranteed; no seedlings.

**Well Hardened Eucalyptus Trees** "Those we got from you did very well, but what we obtained from——practically all died; they were too tender to start with." (Extract from letter received from a Sacramento planter.)

**New Fruits** and all Best Older Varieties. Ornamental and General Nursery Stock. Pedigreed Prunes.
Write for Catalogue.

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## Eucalyptus Trees for Fall Planting

It has been demonstrated in the San Joaquin Valley that the best time to plant Eucalyptus trees is about the first of November, or as soon as the rains have thoroughly soaked the soil.

We have 200,000 trees of various varieties just the proper size for fall planting. We would advise that you place your order early, as there are very few trees to be had at this time of the year.

**Aggeler & Musser Seed Co.**
**113-115 N. Main St., Los Angeles**

## MELILOTUS CLOVER

The Great Cover Crop
For information and price, write
Edward L. Koethen - Riverside, California

## CHICO NURSERY CO., Chico, Cal.

We have just what you want to plant this coming season.
***APPLES, PEACHES, PEARS, PRUNES, CHERRIES and ALMONDS.*** Also a good stock of ***GRAPE VINES, BERRIES, ORNAMENTAL TREES, SHRUBS*** and ***ROSES.***
Catalog free. ***CHICO NURSERY COMPANY, Chico, California***

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Made from California Redwood or Selected Washington Douglas Yellow Fir

## National Wood Pipe Co.

**Machine Banded Stave Pipe** **Continuous Stave Pipe**
LOS ANGELES OFFICE—404 Equitable Bank Bldg.
SAN FRANCISCO OFFICE—318 Market St.
SALT LAKE CITY OFFICE—Dooly Block.
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Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.



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may be airight "back East," but your down-to-date California rancher goes in for better things as for instance.

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Ideal for outdoors built for business, strong, neat fitting, comfortable, cleanly, strongly seamed and re-inforced, plenty of roomy pockets inside and out, buttons sewed on to stay.

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Thoroughbred Holstein Bulls and Heifers
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St. Lambert and Flying Fox Blood. Margery Golden's Fox heads the Herd. Young stock for sale. GUY H. MILLER, Prop., R. 3, Modesto, Cal.


When writing advertisers, mention Cultivator.

# Live Stock and Dairy

Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

## MILK.

By Mrs. M. E. Sherman.

MANY people are puzzled over the difference between the various kinds of milk, sold under the names of bottled milk, certified milk and steamer milk. The names indicate different degrees of care in the production. Bottled milk today is a far cleaner and better product than the milk sold a few years ago out of large cans. I used to see the milk man measure the milk into open pitchers and let it stand on the door steps until the lazy housewife got up in the morning. The dust blew in and the prowling Toms, thirsty after an all night concert on the back fence, found it quite refreshing. I remember well seeing a cat have its head caught in a narrow pitcher and fall down the steps into the street with dolorous howls, until the pitcher kindly broke and released him. Bottled milk from the ordinary dairy is inspected more or less often according to the efficiency of the local health officer. It is a reasonably clean and wholesome product. Certified milk is produced under supervision of a special committee and is sealed with a certificate label guaranteeing that the regulations have been complied with. It is clean milk cooled and bottled. Steamer milk is produced by experts and kept from bacterial contamination by every known means. It is bottled directly from the cows and chilled afterward. It is called steamer milk from having been first prepared for the trade of the Atlantic liners and has often been perfectly sweet three weeks after drawn from the cow.

### Clean Milk.

Bottled milk as supplied is clean milk, more or less, according to the ideas of the dairyman who produces it, the general quality of the officers who inspect the milk, and the amount of favoritism shown to the dairyman. The State Pure Food law is strict and it has an impartial officer. Prof. M. E. Jaffa of the University of California is the prosecuting officer. The word certified as applied to milk and its products is copy-righted asd controlled by a New Jersey corporation. The majesty of the law has not been tested in regard to this copyright, but it is likely that a quibbling shyster could overthrow it. It is to be hoped that this will not happen, as the definite control represented by the word "certified" has been worked out until it is on a practical basis. Mr. Stephen Francisco permits the use of the word "certified" to any dairy where the restrictions are compiled with as laid down. First a commission must take charge, having a committee appointed to see that the regulations are followed. The dairyman is protected against extortion by the fact that when the required care has been given, the Commission cannot withhold the right to use the word "certified."

### Practical Working.

The first certified dairy in California was the Walnut Grove of Oakland and at that time the certificate was given by the Oakland Home Club. Now the certified dairies of this same district are under the Alameda Medical Society. The great value of this plan is that it can be carried out. The difficulty of milk inspection in the past has grown out of the ignorance of the inspectors and health boards, ignorance of the practical part of the work. It is easy to sit at a desk and formulate theories but to make a theory that can be worked into a plan requires executive ability of a high order. The doctors as professional men are poor executives, as they are accustomed to work by themselves. Working together is one of the things that they do not learn readily and a dairyman must secure the intelligent cooperation of every man about the barn if he is to have his orders carried out.

### Profits.

At the present prices the margin of profit is not large and economy must mark every step. The fact that cows must be milked regularly and on time makes a regular, dependable milker a good asset. He must not be offended or coerced beyond his endurance. Milkers do not always come from a dainty class of people that understand bacterial cleanliness. How little it is understood by the ordinary housekeeper! While we have no peasants in America there are many that have the ways of peasants and the bath is only a part of the dressing up process to go to town. The problem of keeping the girls on the farm would be in part solved if the house had abundance of hot water and a good bathroom. The failure of some dairies to lower their bacterial count has turned on the impossibility of retaining the milkers if the requirements are enforced. When milking is done by machines, the difficulty is at first lessened, but then trouble comes from the help not understanding that the machine must be kept immaculate. I sigh for the time when the milking machine is in full use and a success. This will not comes until Davis sends out its graduates in large numbers. With trained men in the dairy the head man's life would be easy, and yet it will cost money. The price of milk is traveling up and there seems to be little reason to think it will grow less, for with skilled labor naturally the wages will continue to increase.

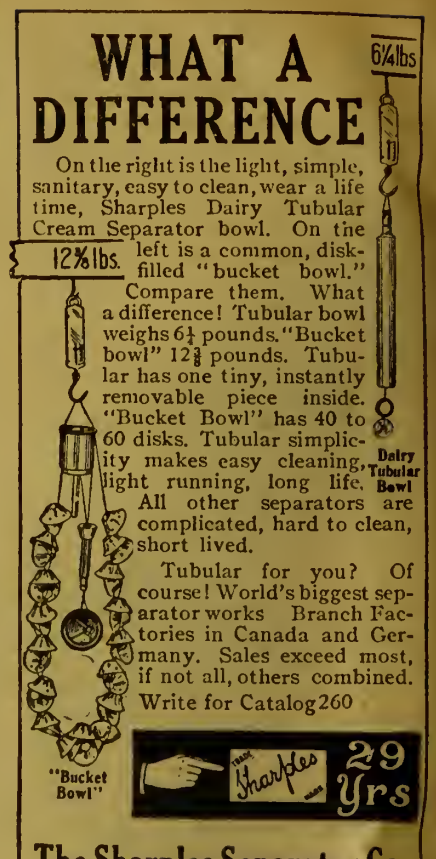
## REMEDY FOR LONG CHURNINGS.

The causes of long churnings of cream are usually churning a thin cream and at a low temperature. The temperature mentioned of 58 degrees and a cream testing 34 per cent is all right, and under ordinary conditions one and one-half hour's churning is not considered any too long. If you warm the cream to 65 degrees there is no doubt but that the churning will be much shorter, but there will be a large loss of butter in the but-

Cream Separators, all sizes, and prices. O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.

Anthrax Cure, Milk Fever Outfits See O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.


WHAT A DIFFERENCE




On the right is the light, simple, sanitary, easy to clean, wear a life time, Sharples Dairy Tubular Cream Separator bowl. On the left is a common, disk-filled "bucket bowl." Compare them. What a difference! Tubular bowl weighs 6¼ pounds. "Bucket bowl" 12⅝ pounds. Tubular has one tiny, instantly removable piece inside. "Bucket Bowl" has 40 to 60 disks. Tubular simplicity makes easy cleaning, light running, long life. All other separators are complicated, hard to clean, short lived.

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termilk. You will, therefore, have to choose between reducing the time of churning or increasing the loss of butter in the huttermilk. By churning the cream at a temperature of 60 to 65 degrees, the butter will undoubtedly come within half an hour; the buttermilk, however, may test as high as 1 per cent fat. By churning at a temperaturo of 55 to 60 degrees the butter will come in about an hour and the buttermilk will have a fairly low test.

If the mixed cream tests over 30 per cent fat and it is extremely sour before churning, the butter ought to come within a reasonable time, if the cream is churned at a temperature of 58 degrees.

The length of time that hutter should stand before salting will depend on the temperature of the butter. If it is soft, the salt will mix with the butter easily and there is no necessity of allowing it to stand more than 15 minutes before packing. If the hutter granules are hard, the salt should be mixed with it, then worked in three periods of time, allowing the hutter to stand for the salt to dissolve between each working period. The salt should he dampened before it is added to the butter in any case.—Hoard's Dairyman.

## NORTH DAKOTA RELEASED FROM QUARANTINE.

The Secretary of Agriculture has issued an order effective September 1, releasing from quarantine on account of scahies or mange in cattle that portion of North Dakoto lying south and west of the Mississippi River. Up to Octoher 1, 1908, the entire State was in quarantine for this disease, hut on that date the part north and east of the Missouri River was released, the disease having heen eradicated from that section. The work of eradication has heen continued by cooperation between the Federal and State authorities with such good effect that the entire State is now pronounced free from the disease and the quarantine is removed from the last remaining portion.

The area still under Federal quarantine on account of this disease comprises the northeastern part of Montana, the southeastern part of Wyoming, the eastern portions of Colorado and New Mexico, the western portions of South Dakota, Nebraska, Kansas, and Oklahoma, the Panhandle of Texas, and a small area in the extreme southern part of Texas. The Federal and State authorities are working these regions, and it is the policy of the Department of Agriculture to remove its quarantine as rapidly as the disease is eradicated from any considerahle area.

Very recently the Department of Animal Husbandry of the Ohio State University, through the McLaughlin Bros. of Columbus, has imported four Percheron yearling fillies from France. These were four of the hest yearlings Mr. McLaughlin could find in the Percheron district. These four fillies add greatly to the horse equipment for educational work at the Ohio State University The University now owns pure bred breeding Percherons, Clydesdales and Hackneys, and a Morgan stallion of splendid breeding and character.

**Do your cows milk hard? Send 50 cents for teat expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

## HORSE NOTES.

A clipped horse will catch cold less easily than one not clipped.

Do not over feed of hay, especially at night. It is not good for a horse to eat all the time.

Water before feeding. Then water again before going to work.

For itch or mange, rubbing of tail or mane, wash thoroughly with warm soft water and soap, then rub in with brush a proper strength of coal tar dip used on sheep and hogs. Scrub every three or four days until cured.

Disinfect stalls and harness also or you never will get rid of the pest.

Give only half rations on Sundays when team is idle. A little grass then is good tonic.

Both the brood mare and the stallion can be carefully worked to their hetterment. They should not he overworked, of course—just given regular exercise.

If manure smells very strong when voided something is wrong with the feeding.

When a long drive is expected do not feed quite as much as usual. They travel better.

The corn-fed horse lacks spirit, tires easily and sweats profusely.

When shedding teeth the horse may not eat as well as usual. Do not dope, cut gums or torture hy burning. Give nature a chance to work off those twenty-four milk teeth. This is not finished until six years old.

The high-headed horse can better be bridled hy having a snap on the bit. Put hridle on then snap the bit in place.

Use the same common sense in horse feeding that you do in taking good care of yourself and you will he little hindered in work by horse colic, heaves, etc.

The horse has but one stomach and that is small. So he can't load up for all day like the steer and digest it at leisure.

The heavy work season is on and the team needs different feeding than was given during the idle season. They are shedding and growing a new coat, the mares are growing colts, and so it takes more feed.

## FUNDAMENTALS.

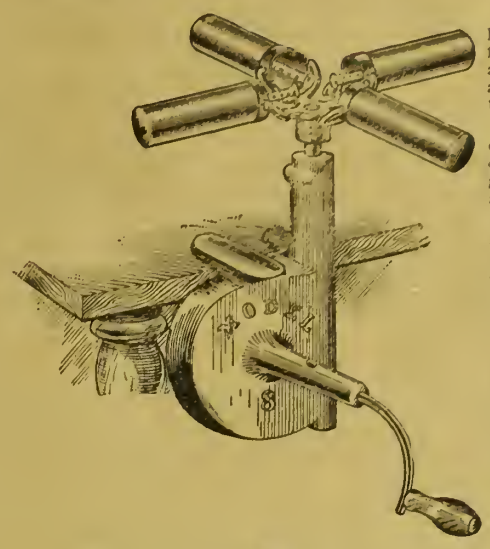
These seven fundamental principles of successful dairying were formulated at the Illinois Farmers' Institute:

1. Weed out the poor cows by means of the scale and Bahcock test.
2. Feed the good cows a balanced ration.
3. Grow alfalfa and provide an abundance of silage.
4. Head the herd with the best sire obtainable.
5. Raise the heifer calves from the best cows.
6. Continue to weed, feed and breed.
7. Feed the mind of the man behind the cow.

Five imported Swiss milch goats have recently arrived at the Wisconsin Experiment station. These goats are of the breed known as Schwarzen burg-Guggesberger, a breed noted for its milk-giving qualities. The ohject in maklng this importation is to experiment with the milch goat in this country, and compare their economy of milk production with that of cattle.

The Portland Fair and Live Stock Association holds its next fair September 20 to 24.


# Improved Babcock Tester



Babcock Milk Tester, an extremely simple, light, compact and carefully designed apparatus, especially adapted for use in the dairy and also on account of its light weight to the Traveling Dairy Inspector.

The working parts are entirely enclosed in a handsome cast-iron case, and consist of but two cut gears, namely, bronze spiral gear and steel spindle with worm thread.

The Tester is fitted with swinging pockets and malleable iron head; it turns very easily without any vibration or jar and can he readily attached for operation to any table or bench. The bottles are perfectly horizontal when rotating.

| | wt. lbs. |
|---|---|
| No. 1 2 bottle for milk, 14 each | $5.00 |
| No. 2 4 bottle for milk, 14 each | 6.00 |
| No. 3 2 bottle for milk, and cream .....14 each | 5.50 |
| No. 4 4 bottle for milk, and cream .....15 each | 7.00 |

Price Includes full directions for making test, hottle of acid, test hottle hrush, acid measure, pipette and test bottles.

## Creamery Machinery and Dairy Supplies

# O. J. Weber Co.

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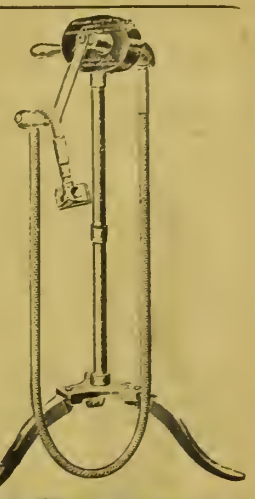
# Clip Your Horses Yourself



Stop paying high charges for work that you, or any man or boy, can do. There's no need to employ experts to clip your horses when you can clip them **yourself better, quicker, cleaner, safer and cheaper** with a

## Stewart No. 1 Ball Bearing Horse Clipping Machine

It's an economy for the man who owns one or more horses. For, with a STEWART, there are no delays. The machine is always ready for use. Horses can be clipped more frequently and at Regular Intervals. The STEWART is *the* machine that lasts indefinitely and gives good service *all* the time. It never requires attention, and runs practically without friction or wear. A tremendous speed of the knives is obtained by slowly turning the handle—and a boy can turn the handle. (Another boy can clip the horse.) **Complete for $8.50.**

The price is for the machine ready to begin clipping horses with. It includes six feet of flexible shaft, the famous Stewart Clipping Knife and a liberal guarantee. Get one at your dealer's. If not there, write us.

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# Special Sale of Holsteins

We are now offering our entire herd (75 head) of pure bred Holsteins for sale at very low prices. Will sell as a whole or in carload lots to suit purchaser on very liberal terms. All our stock comes from the celebrated herd, formerly owned by the Pierce Land and Stock Co., the premium herd of Holstein-Friesians in Cal. Write your wants.

**OAKWOODS STOCK FARM CO.** Lathrop, Cal.

One of the greatest advantages of alfalfa as a hog pasture is the fact that it affords a fresh growth throughout the grazing season. The pasture should he mowed at least three times each season, thus taking off all the matured stems and giving opportunity for the sending up of a new, tender growth, just the quality the hog delights to feed on. It is this new, fresh growth that makes alfalfa pasture so generally preferred hy the hog and so highly satisfactory as a flesh former. The hog wants fresh pasture. He does not graze like the horse, cow or sheep, but is hest suited when he can bite off a clover bloom or a sprig of alfalfa, and does not from choice like to feed on a thick, heavy-coated blue-grass sod. He objects to moldy, wet or soured grasses, such as the blue grass and white clover pastures so frequently afford when not closely grazed.—From Coburn's "Swine in America." "Swine in America."

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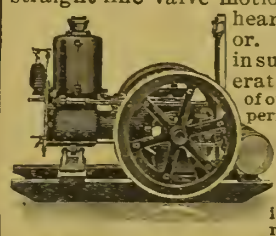

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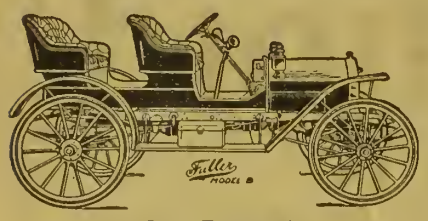

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## Hopkins' Improved Small Fruit Plants

## Strawberry Plants

Twelve varieties and ready about Oct. 1st.

Blackberry, Loganberry, Mammoth Blackberry, Raspberry and Phenomenal Berry Plants. Ready about Dec. 15th.

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Send for price list.

**G. H. Hopkins & Son**

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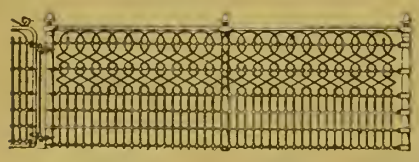

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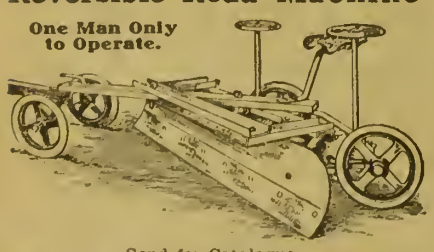
**The Simplex Russell Reversible Road Machine**

One Man Only to Operate.



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**1277 Howard St. San Francisco, Cal.**

**EUCALYPTUS**

**TREES AND SEED**

**SUNSET HORTICULTURAL COMPANY**

**Inglewood, California**


# Small Fruits and Vegetables

### FERTILIZING THE GARDEN.

THE best garden soil does not exist; it must be made. We expect our garden plants to do wonders, and to realize this expectation the garden soil must be made "wonderfully" rich. In the garden a great variety of plants with a variety of soil needs are to be grown each year. For this reason the soil must be given a variety of fertilization.

Some people think, or say, at least, that soil can be made too rich. Such seldom, if ever, happens, providing a variety of fertilizers is used, and these well mixed with the original soil. Fear feeding the soil too little rather than too much, and feed it some every year.

Stable manure in which liberal bedding has been used is the foundation for all garden enrichment. This contains valuable nitrates and other fertilizing elements besides a large proportion of vegetable refuse for making humus, the very body and soul of high soil production. Most authorities advocate the use of "well rotted manure only," but the writer has found by years of experience that the manner in which manure is used is of more importance than its age.

Old or well-rotted manure is, beyond question, the best for general use, but this kind is scarce and usually very difficult to secure. Plants can immediately take hold of and utilize well-decomposed stable manure. It has passed through the heating stage, hence there is no danger of injury to the growing plants from that source. For very tender plants no other kind should be used. But manure which has been allowed to decompose has lost a part of its fertility, and fertilizing elements are all worth money and should not be allowed to go to waste.

For standard garden crops any fresh stable manure can safely be used if applied and handled in the right way. If it is to be applied to the surface of the soil it should be put on in the fall, spread very evenly over the surface to avoid lumps, and plowed under before freezing weather. Lying in the soil for several months when no crops are growing, it will partly decompose and be ready to feed the plants the following growing season. In the spring, or at any season just before a crop is planted, fresh manure must be applied to the surface of plowed or spaded soil. It should be spread thin and even, without lumps, and worked into the surface with rake smoothing harrow or disk. Here it will be in a position not only to feed the plants through dissolving rains, but also to act as a surface mulch to hold moisture during dry weather. Each cultivation will break it into finer pieces and mix it with the soil, and each rain will dissolve out rich foods which will immediately be caught and used by the roots of the growing crop before they have a chance to escape.—Journal of Agriculture.

---

Now, I want to say a word in regard to the wheel hoe. It is indeed indispensable and the greatest labor saving device in the world. If you have never tried one be sure and invest in one this season. I have one with all the different attachments. When I use it, instead of being drudgery, gardening becomes a pleasure, a joy, a fine art, if you please.

### THE USE OF NITRATE OF SODA.

I am getting dozens of inquiries about using nitrate of soda on garden crops. Now, I believe it is very valuable in some soils, but with me it gave no results whatever. Probably this was because my ground is already rich in nitrogen from the use of clover, cow peas and barnyard manure. For soils that are deficient in nitrogen, nitrate of soda would be very valuable on account of its quick action. Use it as a top dressing at the rate of 100 pounds to 200 pounds per acre, and make three or four such applications during the season. The first rain will wash it into the soil and it will be immediately available. But for the general gardener the nitrogen can be secured much more cheaply and in more permanent form by the plowing under of cow peas, clover and well rotted barnyard manure.—St. Jo. Fruit Grower.

### CABBAGE WORMS.

The butterfly which is the adult of the cabbage worm is about two inches across. They are in the chrysalis stage in summer time from one to two weeks, but those late in the season remain until spring before coming out as butterflies.

So this pest can complete its life cycle in from three to five weeks, thus the necessity of keeping watch for new broods of the worm.

Remedy. One pound of Paris green in 150 gallons of water sprayed on plants when first set and until heads are about half formed will poison the worms. Pyrethrum powder can be used by those who fear the former remedy. Hot water (130 degrees) is recommended but we have failed to get results with it.

By leaving a few heads as traps on which the females lay late in the season the last crop of worms can be poisoned on these.

### ABOUT ATHLETICS.

Now, I may be cranky and queer, but I believe that an hour's work in the garden is better for the boy than an hour playing ball, and a great deal more beneficial to the community in general.

---

The life cycle of most vegetables is a brief one, consequently they must find a sufficient supply of all the elements of growth in such form as to be readily taken up and quickly assimilated. Vegetables can't plod along through a long season like corn or wheat. Their days are numbered by weeks, not by months. And so I have found that manure is the thing for them—more manure and still more manure. There is another home-made article that I use to great advantage in my garden—green wood ashes from the cook stove. I save every ounce of it. Cabbages simply laugh and grow fat on it, and many other vegetables grow much larger and finer by its use.

---

Strawberries and weeds do not go together if a good crop of the former is desired.

### THE NEW GEOMETRY.

Stella—Parallel lines never meet.

Knicker—How about a kiss —New York Sun.


TREES TRUE TO NAME. The Silva-Bergtholdt Co. Newcastle, Calif. PLACER NURSERIES

# FRUIT TREES

**ALL STANDARD COMMERCIAL VARIETIES**

The best that good care can produce

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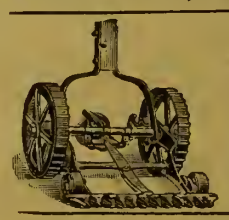

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They bloom from October to May.

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# The Ornamental Garden

### MONSTERA DELICIOSA.

ONE of the most interesting of the decorative climbing plants of the Honolulu garden is the species of Philodendron, Monstera deliciosa. In favorable sites upon old walls or upon trees it grows freely, and its generous sized leaves ornamented with a margin of oval perforations, together with the somewhat snake like form of its mottled aerial roots give the plant an unusual and attractive appearance.

Although unexpected, this somewhat weird creeper yields one of the most exquisite and delicate of tropical fruits. The flowers are small and unpretentious, but are surrounded with a large white spathe as are other members of Araceae. The fruit, which is vivid green in color, becoming duller as it ripens, consists of a quantity of hexagonal sections arranged spirally upon the central stem. Those who are familiar with the pineapple will notice the similarity of its fruit to the Deliciosa, which latter may be likened in appearance and construction to a greatly prolonged but much narrowed green pineapple without the latter's decorative crown or generous coloring. When fully grown the Deliciosa measures about fifteen inches long and three in diameter.

The taste of this exquisite fruit is to be described as partaking of a mixture of tropical flavors in which that of the pineapple predominates. When ripe it diffuses a very fragrant odor. One peculiarity of the Deliciosa is the length of time which the fruit when fully grown requires to ripen—a period of many months elapsing before it is ready for the table. Another unusual characteristic is that it commences to ripen from the end and is only suitable for consumption in sections—two or three inches being available for eating daily. In this way a good sized fruit lasts some days, the exterior hexagonal flakes becoming detached and revealing the ripened sections below.

To all who are fond of fragrant fruits the Deliciosa is recommended. Its peculiar growth and unusual characteristics make it an object of great interest, while its delicious fruit possesses a luscious flavor which few other varieties can claim.—Hawaiian Forester.

### CONSIDER THE TOAD.

A man seldom has any enmity for the toad though some hold to the foolish notion that he is a wart producer, but it is the boy that needs a word of instruction.

Teach the children never to harm a toad. It is a very harmless creature and does nothing but good. As an insect catcher the toad is a star player. You will find him at work in the garden when the world is asleep. He gets after the injurious insects. The more toads you can have in the garden the better.

---

Liquid manure should be applied only when the ground is moist enough to absorb it.

---

Never allow roses to remain on the bush until the petals begin to fall.

### LATE PLANTING OF EVERGREENS

The best time to plant evergreens is early in the spring just when the new seson's growth is starting. If the planting is delayed until June, the trees are not apt to do well unless frequently watered and mulched during the summer months.

Some planting is done in August, but we do not believe an inexperienced person can make his trees grow when planted so late.

When evergreens are planted late they should be thoroughly watered and a dust mulch maintained around the roots until winter sets in.

It is difficult to tell by the looks of the trees whether they are alive during the late summer months or not, as very often they retain their verdure some time after they are dead.

In the spring, however, trees that die turn brown within two or three weeks. The better time to plant evergreens is, in our opinion, in the spring.

### SILK WORMS.

A communication from Mrs. Carrie Williams of San Diego, a pioneer in the silk industry, who still maintains her interest in it, says that she feels certain that the silk industry will soon be placed upon a more substantial and profitable basis than it ever has been. She adds: "For seventeen years I have given time, talent and money in endeavoring to interest the people of the Golden State in the silk business from a practical standpoint. I now begin to see the light dawning, and hope before long to see in this city a silk museum, menagerie and silk school, that will form the nucleus of the production of silk throughout the state and nation. At no time in my memory has there been such interest. This is especially true with teachers, who, with other branches of nature study, are giving much attention to silk production."

---

It is permissible to plant two or three elegant single specimens of shrubs or trees upon the lawn, provided they are so placed as to appear to be a part of the larger masses adjoining. For this purpose we use only trees of the most beautiful form.

Try a few of the summer blooming bulbs and tubers, tuberous rooted begonias, caladiums, dahlias, cannas, tuberoses, etc. They are satisfactory summer bloomers.

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Did you ever think what a beautiful and long-flowering garden one might have with just the P's? Sweet peas, poppies, pansies, primroses, peonies, poinsettias, primulas, petunias, phlox, portulacca. With no more flowering plants than these one may have flowers every day, all of them being easy to grow and continuous producers of brilliant flowers.

---

All flowers keep in bloom much longer, and the flowers are larger, if not allowed to form seeds. Pinch off every flower as soon as it begins to fade This is especially true of sweet peas and pansies.

---

It is fatal to some plants to fertilize them with rich manures when the ground is very dry.


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**Sweet Peas** Plant the early varieties now for flowers this fall. The following varieties bloom in 50 to 60 days from planting. 10c per packet, 3 packets for 25c. ***Morris & Snow's Earliest Pure White*** (Gould). ***Earliest of All,*** pink and white, very early. ***Bodger's Earliest Pink,*** New. Proved a great success last year. As early as the Earliest Pure White. (We control this stock.) ***Mount Blanc,*** pure white.

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# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 DUANE ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, September 16, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

Frank H. Thomas, Adv. Mgr., 115 No. Broadway, Los Angeles
M. C. Holman, San Francisco Office, 733 Merchants Ex. Bldg.
Fisher Special Agency, Eastern Office, 150 Duane St. New York
H. G. Hutchins, Subs. Man'gr., 115 No. Broadway, Los Angeles

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## Stand by the Reclamation Service.

THE contest between Secretary Ballinger and Mr. Pinchot of the Reclamation Service seems to have quieted down somewhat for the present, though it must be confessed that in the short time is was before the people, it aroused the entire West as have few other events, and so far as can be judged from the newspaper comments, the sentiment of the country is almost unanimously with Mr. Pinchot. Occasionally a paper sings rather low in support of Secretary Ballinger, but it is usually of that class of papers termed supporters of the "interests." The remark made by Secretary Ballinger at the Spokane Congress indicating that he regarded the reclamation service as of no particular advantage to the larger class of people, that it should be kept out of the field and allow private capital to develop irrigation enterprises, has put him in a position where he will be compelled to make explanations. Plainly he is going contrary to the Roosevelt policies, and if there ever have been policies fully accepted by the people of this country they were those established by Theodore Roosevelt.

According to the disposition manifested by Mr. Taft along other lines, he has, so far as can be judged, kept his hands entirely off of this matter. What he will do later remains to be seen. Meanwhile, let the friends of reclamation be as calm as possible, at the same time insisting on the continuance and fullest support of the reclamation work.

It has been suggested that the whole matter is merely a jockeying back and forth of different wings of political parties for the sake of securing political advantage. If this is the case, it is time for the "common people" to rise up and insist that the political maneuverings shall cease.

* * * *

WE NOTE that the news despatches chronicle the return of Secretary Ballinger to Washington earlier than he had expected. Some papers have been unkind enough to say that it was by emphatic request of President Taft. The Secretary himself, however, positively asserted that it was merely to attend to the necessary duies of his office. Certainly his declarations at Spokane were such as to cause much uneasiness on the part of those who hope to see a few of our great resources remain in the control of the people.

## Play Day.

AS WE remember our boyhood days on the farm we are reminded that at least once a year, usually on the Fourth of July, the farmers had a rousing big picnic. But that particular day was very likely to be spoiled by a thunder shower and really enjoyable days were few and far between. Present day farmers have improved somewhat along this line and meet for a "play spell" oftener than they used to. They realize the actual advantage and commercial worth of a good "play spell." It is the sauce which gives zest to the other work-a-day tasks. We believe there should be more of them. Incidentally, as has been the case with farmers clubs, orange exchanges, lemon clubs, and other organizations, a little serious discussion may be mingled with the fun.

Meantime, don't forget that the young people on the farm should be offered their opportunity for play days and the conveniences for a good time on or near the farm or ranch.

## Co-Operate.

AFTER ALL the reducing of acreage and the encouraging of the belief that this year's cantaloupes would pay better than usual, the growers of the Imperial Valley, having struck their balances, in some cases, find that they are on the wrong side of the ledger. In most cases, however, they are on the right side, but it takes so few figures to express them that a most discouraged feeling prevails. We believe this will continue to be the situation with the cantaloupe men, at least intermittently, so long as present marketing methods prevail. The great lesson of co-operation must be learned, and no better study can be taken up by rural dwellers than that of co-operative marketing. In doing so, let us not be confused by thinking that we are forming a trust to arbitrarily boost prices, but simply applying the best business methods to the disposal of the product in hand.

## Farmers' Week.

THE STATE farmers institute which has for the past two years been held in October at the state farm at Davis gives way this year, or rather is changed somewhat in form, and a week to be known as farmers week, Oct. 25-30, will take its place. Prof. Clarke writes: "The general idea of the week is to have various meetings, for instance one day will be devoted to a round-up of farmers institute workers." Other days we suppose will be given to the discussion of various farm methods.

The demonstration train service also will be taken up again this fall, starting possibly about the 15th of November.

## Crop Conditions.

ACCORDING to estimates made by the Bureau of Statistics, United States Department of Agriculture, crop conditions in the United States, in the aggregate, declined during August 1909 about 6.9 per cent which compares with a decline in August last year of 4 per cent, and an average decline in August of the past ten years of about 3.2 per cent. On September 1, general crop conditions (including crops harvested before August 1, with their condition at time of harvest) were about 2.6 per cent lower than on September 1, 1908, and 2.9 per cent lower than the average condition on September 1 of the past ten years. As a consequence of the unfavorable August, general prospects were changed from above average on August 1 to below average on September 1. Compared with the ten-year average condition, which is represented by 100, the condition on September 1 of important crops was: Spring Wheat 115; Oats and Grapes 105; Flaxseed 103; Rye and Potatoes 101; Hops 100; Hay 99; Tobacco 97; Barley 96; Rice, Sweet Potatoes and Sugar Cane 95; Buckwheat 94; Corn 93; Sorghum 90; Cotton 87; Apples and Peaches 80.

## Valuable Advertising.

THE California Fruit Growers Exchange has issued a booklet of recipes and paragraphs showing advantages of Sunkist lemons. It maintains that one may profitably use California lemons from getting up time in the morning till going to bed time. In addition there are hints for the sick room and for many miscellaneous kitchen and toilet uses. Incidentally, there is in the back a department given to California Sunkist oranges.

It is good advertising, and we imagine will accomplish fully as good results as were accomplished by the Exchange in its newspaper advertising over the Middle West last year.

## Farmers' Institutes.

A LETTER from Prof. W. T. Clarke gives the following institute dates: Grass Valley Sept. 15, 16; Gold Hill, Placer County, Sept. 17, 18; Dorris, Siskiyou County, Sept. 25; Macdoel, Siskiyou County, Sept. 27; Edgewood, Siskiyou County, Sept. 29. Other dates between Sept. 29 and Oct. 15 will be filled later. Oct. 15, 16 is given to an institute at Napa.

The average condition of Corn on September 1 was 74.6, as compared with 84.4 last month, 79.4 on September 1, 1908, 80.2 on September 1, 1907, and 80.6, the ten-year average on September 1.

## The Lemon Men's Club

(Continued from Page 267.)

The packing house of the exchange was a gathering place for a large number of lemon men after the meeting at Mr Hubbard's home The newly constructed room where the lemons are to be "sweated" and colored was inspected and was found most complete for the purpose Two rooms are constructed, each of which will hold about a carload of lemons. Arrangements will be made in the basement for raising them to the required temperature and holding there until in the proper condition for shipment. These rooms are to be used only in case it is necessary to push the lemons onto the market as soon as picked. The packing house is under the general management of Mr. R. H. Hille.

This is the first meeing of this kind ever held by the Club. It has usually been so absorbed with discussions of serious questions that no time has been taken for the pleasure of such a day as this. This day's enjoyment was made possible by the hard work and enterprise of R. H. Wilkinson, T. J. Walker, C. C. Reynolds and C. D. Hubbard. These men had made provision for the various trips taken and for the big feed under the fig trees at the home of the Mission View Ranch. Mr. and Mrs. Hubbard had worked hard to make provision for such a large number of people, and it may be taken for granted that the hungry visitors watched with much interest the barbecue methods of preparing nearly sixty chickens.

Those who were not members of the club left with the conviction that the members were all truly "first grades," "regulars," and "good keepers" and all were anxious to have the same kind of a lemon handed them again.

# Agricultural News Notes of the Pacific Coast

## Northern California

Lodi has a pre-cooling plant nearly ready for its first test.

The first car of Florin's Tokay grapes brought the Association $1,833.00.

About 150 laborers are employed in the fruit drying yards at Yuba City, Sutter county.

One lumber company has purchased 18,000 acres of timber land in Siskiyou county.

Yolo county is aleady shipping large quantities of sugar beets to the Alameda sugar factory.

Four hundred and six cars of fruit were shipped through Sacramento for Eastern points last week.

More money is being invested in reclamation schemes in the Sacramento Valley than ever before.

The bean crop in the section around Biggs, Butte county, has been greatly reduced by the red mite.

The Forest Syndicate Tract Co. at Willows, Glenn Co., will plant a large tract to eucalyptus trees the coming season.

The citrus fair association of Butte county has decided not to hold a fair this season but will hold a larger one than ever before in 1910.

Machines for picking hops are proving satisfactory with more extended use. Several are in operation near Wheatland and Sacramento.

The feeling of indignation against the Wine Makers Association for its price and terms for the coming wine grape crop is general all over Northern California.

A compromise has been effected between the various wool growers associations and the county of Tehama and the State of Nevada regarding sheep licenses.

The hop crop showed a shortage over expectations before picking began. Some pickers have already cleaned the yards, and it is claimed that the state will produce less than estimated.

Yolo county's exbibit of agricultural products in the State Board of Trade rooms in the Ferry Building is declared to be an injury to the county because of not being kept supplied with fresh fruits.

A meeting of the Yolo County Grape Growers Association was held recently at which it was determined not to market their grapes at five dollars a ton, and it is hoped a scheme may be devised which will bring the growers a greater return.

The board of supervisors of Sacramento county have authorized the county horticultural commission to employ an inspector to secure if possible the eradication of Johnson grass which is becoming a great pest in that county.

The American Fruit Co. at Antioch has made a series of experiments covering the past four years in the shipping of fruits without the use of ice but in a car filled with nitrogen gas. It is reported from the experiments that this method may succeed refrigeration.

## Central California

Hanford shows a 51 pound watermelon.

The shipping of Malagas begins at Hanford this week.

A few raisin grape men began the season's picking last week.

"Hold your raisins," seems to be the slogan amongst the raisin men.

The fruit crop of the country surrounding Atwater is much less than last year.

The coming Tulare county fair promises a most complete and attractive exhibit.

The Fresno county portion of the National forest reserve is more than paying its own expenses.

An onion seed grower at Alpaugh, Tulare county, has netted $400 per acre from this season's crop.

The Visalia sugar factory is confronted by a suit for $26,000 begun by the National Bank of Visalia.

The outlook for beet sugar in California seems to be better than in any other state in the Union this year.

During the past year the Laton Co-operative Creamery has paid to its members $169,139 for 586,758 pounds of butter fat.

Kings City shipped its first car of beets to the Spreckels factory last week. That section will produce about 500 cars.

A creamery is about to be started at Delano, Kern county. It has assurance of sufficient cream to make a successful run.

Santa Clara has a pumpkin vine which has climbed a pear tree and has seventeen good sized pumpkins as fruit of the "tree."

The Santa Clara Valley Poultry Association is making extensive preparations for the finest show this fall yet held in the state.

The farmers union has released all wine growers from their contract as the union has been unable to secure any price for this season's output.

Prices of figs in the Fresno section have shaded somewhat and are now ranging from 1¾ to 2 cents, the former prices having been around the 2½ cent mark.

One of the largest wine grape growers in Fresno county asserts that where wine grapes are sold for less than ten dollars per ton, there will be no profit to the producer.

Some of the large raisin growers of Fresno county recently held a meeting and decided to form a corporation which it is hoped will ultimately be a factor in the raisin situation.

A cattle rancher near Tulare recently discovered a large number of ticks on his cattle, but an examination by the county veterinarian showed that they were not of the Texas fever variety.

It is estimated that this state this year will produce about 1,000,000 bags of lima beans, 370,000 of pinks, 533,000 large whites, 145,000 small whites, 86,000 bayos, 103,000 blackeyes, with about 100,000 bags of others, making a total of about 198,000,900 pounds, or in carloads nearly 5000.

## Southern California

Baled alfalfa is now selling at $8.25 in Imperial county.

San Diego is planning for a world's fair to be held in 1915.

The Orange county bee inspector reports no foul brood in that county.

A most interesting farmers institute was held at Fullerton last week.

Imperial county farmers union recently held an important meeting at El Centro.

Pickers are now busy in the apple orchards of the Yucaipe Valley, San Bernardino county.

Fullerton says that her yield of sweet potatoes will not be more than half that of last year.

At least twenty-five per cent. damage was the result of the recent hot wave on the Ventura bean fields.

The price of 80 cents per hundred pounds for picking cotton has been fixed upon in the Imperial Valley.

Redlands honey producers report a good outlook for all their output this season. Honey is very fine quality.

Ventura county bean growers have sent several thousand stick pins made of lima beans to Seattle for distribution.

Los Angeles markets show higher prices for eggs during the month of August than for the same month any other year.

The dash of rain which came to the Highland citrus section made much extra work to keep the orchard lands from baking.

The Orange county board of supervisors are considering an ordinance requiring licenses from all fumigators of orange trees.

Careful orange growers estimate the output of the coming crop at Redlands and Highland at about 65 per cent of last year's.

Warrants have been issued for the arrest of a number of cattlemen in San Diego county for bringing in cows without proper certificates of inspection.

Garden Grove, Orange county, is becoming an important shipping point for small fruits and vegetables. It is recently shipping at the rate of two cars daily of chili peppers, tomatoes and other produce.

The cantaloupe growers of the Imperial Valley are again seriously considering the co-operative marketing of next year's crop. The sales through commission men in the past year have been most unsatisfactory.

It is now reported that the price of orange box shook has been reduced to eleven cents per box for the coming year. This is six cents per box less than the price paid by the growers in 1907, and will make over one million dollars difference to Southern California orange growers.

The annual report of the Whittier Citrus Association shows that there has been paid in salaries to employees $34,000 during the last year. The entire labor and other expense of the association was $84,000. The year's shipments aggregated 252 cars of lemons and 264 cars of oranges.

## The Coast

Farmers Society of Equity recently held a meeting at Helena, Montana.

Eastern buyers have purchased large numbers of sheep at Weiser, Idaho, at $3.75 per head.

The Highland Canal near Phoenix, is promised to be carrying water to a large tract of land this fall.

A rich deposit of gold has been found underneath the orchard of a Lewiston, Idaho, fruit grower.

A large plantation of hazel nuts near Vancouver, Washington, shows great profit for this year's crop.

Fruit growers in Southern Idaho will make a large exhibit at the national apple show to be held in Spokane.

The Calapooia Poultry Association will hold its next annual show at Cottage Grove, Oregon, the second week in January.

An irrigation system to cost about a quarter million dollars is planned for Western Oregon. It will irrigate about 12,000 acres.

The Oregon wool clip will be worth more than four million dollars to that state this year. The yield is estimated to be about twenty million pounds.

An excursion party consisting of some of the most noted orchardists of the United States, recently visited the Hood River apple growing section.

A Hillsboro, Oregon, farmer aged 79 years has just cradled and bound his two acres of grain in a day and a half, not only binding but shocking the grain.

A smooth grafter worked the farmers of Eastern Oregon for $2.50 each to become a member of his "organization" which guaranteed its members dollar wheat.

The horticultural commission of Idaho is starting a vigorous campaign for a better fruit and the wiping out of many of the insect pests now in the orchards.

The largest load of wool ever marketed in Eastern Oregon was recently hauled in by eight horses. The load weighed 30,000 pounds and brought the owner $3600.

Over 30,000 California oranges were given away at the A-Y-P Exposition on Sept. 9. The same day over 3,000 cartons of raisins and several tons of fresh grapes were distributed.

A "smut" meeting was recently held at Garfield, Washington, at which fruit growers from all parts of the state gathered to discuss methods of treatment of the smut which is seriously infesting the wheat fields.

Water transportation has proven of great value to farmers near Pendleton, Oregon. Grain has been hauled several miles to the river where it commands three cents per bushel more than when delivered at railroad.

The Falls City Elevator Co. in Eastern Washington, a private corporation, will take over a number of the elevators of the farmers union which were not as successful as anticipated. At least twelve warehouses and elevators will be absorbed.

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***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

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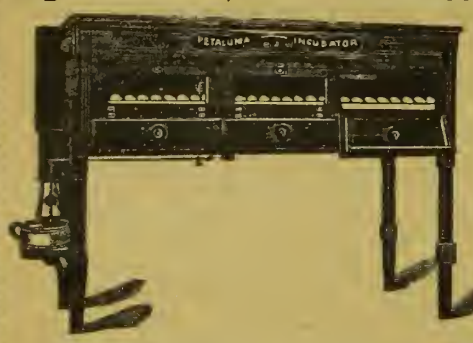


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# Profit in the Poultry Yard

We solicit short articles of a practical nature from the farmer and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

## CLOSER TO WHAT IS NATURAL.

**By Henry Langenschwadt, San Jose.**

HOW often we hear of the hen that steals her nest, and a chick for every egg is reported. This past season we have heard of many that have set hens. From twelve to sixteen eggs were given each. How many chicks were hatched? From one—no, from none—to eight or nine. In a few instances all or almost all eggs hatched. Why this difference in results between the hen that finds her own and the one we find a nest for?

Nature, in the first case, has had its course from beginning to end. There was no interference of any kind. The hen found a place for the nest. She evidently ought to know about what will make a satisfactory nest and, as a general rule, is a good judge. Please note, she did not place all the eggs in the nest at one time. One after the other, a day or two intervening between, she laid them. It took two or maybe three weeks until the number was completed. During the period of time in which these eggs were laid, they were in temperatures varying as much as forty or fifty degrees in the course of the day. This was not just one day, but day after day. Maybe they were wet by morning dew or rain in some instances. If so, they dried again during the warm part of the day, or the nest may have been damp or maybe it was sheltered in the barn or elsewhere.

### Nature's Way.

One egg after the other was simply laid in the nest by the hen. Was she careful whether they were placed on pointed or butt end or in any other particular position? She probably did move the eggs somewhat each time she visited the nest. By the time she had laid all the eggs the nest was to contain, her body was in condition for their incubation. For three weeks or so, she was contented, happy and undisturbed. That she performed this work well is evidenced by the number and vitality of her chicks. Her instinct told her what to do. In every way from the beginning nature's laws had full sway. We have a knowledge of part of these laws but there are more which we have not yet fathomed.

### The Other Way.

What shall we say about the many that set hens and obtain poor results? While it is called the natural method of incubation, has there not been much which was artificial in these cases? It was not the hen, but man that selected the place and made the nest. To his ideas it was right and good. We are not so sure whether biddy approved of it. Perhaps he should know better than she which was the best nest. The eggs were placed in it by him. These eggs may have been laid by one, two or maybe as many as a dozen different hens. Yes, they all should have been fertile, for apparently the hens were mated (?) because there were one or more males with them. Every day these eggs had been gathered carefully.

They were put where the temperature was just right. The books tell us just how many degrees. They also describe how they are to be placed in a certain position. Precisely every twenty-four hours this position must be changed. Whether there is any possibility for the hen to hatch a chick from each of these eggs is hard to say but it is rather expected that she will do so. A broody hen, that has finished laying her clutch of eggs which she would have liked to hatch, is secured and placed in the nest provided. She is taken from the nest she chose. The chances are that few or none of the eggs she laid are placed in the nest. She submits to all that is done to her. We question whether she is always as contented and happy as that other hen who had her own way. We shall not attempt to describe anything of what she has to submit to during the three weeks she sits on the eggs. The reader can, to some extent at least, imagine. Under the circumstances could we really expect better results than were had in many instances? We do know that, more or less, some of the laws made by man were followed out in many of these cases.

### The Wooden Hen.

We do not wish to dwell on the wooden hens that were set, nor to say anything of other branches of poultry work, but incidentally mention them now that you may know we have them in mind in making the concluding remarks.

### Too Artificial.

Why is there so much failure and often such poor results with poultry? Can we not attribute it to the fact that too much that is artificial and contrary to nature's laws is being followed in the work? We do not desire that the reader should infer from what we have said that to get a good hatch and vigorous chicks it is necessary to have the hen steal her nest. But let us study more closely the nature of the hen. The one that steals her nest has, no doubt, the mother instinct well developed or she would not be so anxious to have a brood of chicks. Are not the hatches better when hens of such a nature are selected as setters? How much care is taken that biddy be contented and happy while setting? No one succeeds well in doing what he does not like. So with biddy; if she does not like the nest and is disturbed as she often is. Would you expect her to do well then?

We might take up many details and go into the matter further to demonstrate the points we wish to make. Enough has been said to start you thinking. When natural laws are more closely followed you will find that greater success will be attained. Too much that is artificial has been introduced in poultry work.

## DISCOURAGING.

If the hen knew that she was trading 20 cents' worth of eggs for a nickel's worth of chicken feed she would probably quit cackling.—Minneapolis Journal.

## SUMMER CARE OF THE FLOCK.

WHEN the writer of this article first became interested in poultry keeping, like many others, he believed that the larger part of the yearly profits on eggs depended upon those produced in winter, and that to make any special effort to secure extra good laying in summer was, so to say, a questionable proceeding. If I remember rightly, there are still a few writers who strongly contend that summer eggs are unprofitable, and urge the advisability of giving the hens a rest during that season in order that they may be in the best possible condition for good laying in fall and early winter.

I could never quite agree with such a point of view. Hens given a rest from laying during hot weather will, as a rule, lay better in fall and winter than if they had been forced up to the extreme limit of productiveness previously. At least this has been our experience with a few hens allowed to hatch and raise a brood of chicks in early summer. However, when we read that eggs, produced in summer fail to pay for feed and care and yield a substantial profit besides, we are forced to conclude that the writer has formed an opinion not justifed by the facts of the case.

Ninety per cent of those keeping poultry make their hens pay in summer if they make them pay at all. Some people can't seem to get eggs at any season except spring. Any kind of a hen will lay well under most any kind of conditions during the natural laying season, but when hot weather begins to arrive, most hens, unless given extra care and attention to keep them laying and in good condition, are apt to slack up. It is for this very reason that eggs increase in price on the approach of summer. Those looking for more profit should take advantage of this condition and do their best to secure a good egg yield all through the hot weather. To show how this can be done in the easiest possbile manner, is our purpose in writing this article.

The keynote of success in getting eggs in summer dates back to how the hens were handled in the spring. If they have laid heavily at that time, as nearly all hens do, it is quite likely that they are somewhat out of condition, run down in flesh and otherwise debilitated, unless special pains were taken to see that they were well fed when laying heaviest. If such is the case, the first thing to do is to get them back to normal condition without delay. If thin in flesh, feed corn freely, with moderate exercise.

But a much better way would have been to do all this in the spring by seeing that your hens were fed enough then, and not allowed to get out of condition. It is almost impossible to overfeed hens laying heavily in the spring, if they are given a chance to take a reasonable amount of exercise. When I say that the hens must be well fed, I am not at all sure of convincing some people with the true meaning intended. I have this fear because there seems to be such a great difference of opinion among novices as to what constitutes good feeding. In our vocabulary it means giving the fowl or chicken all it can eat and keep in good condition. I believe that for every fowl overfed, ten are not fed enough. Of the two evils, I would much prefer the former by a good deal. It is easy enough to avoid either extreme—much easier than one would be led to suppose after reading some of the orticles relating to the "science of feeding," and "balanced rations," and all such nonsense. The beginner would do well to let all such stuff alone, unless he is absolutely sure of his ability to feed practically and get results. Then if he wants to he may investigate the science of the subject, but I venture to suggest that what knowledge he may acquire in this connection will hardly be of any earthly use to him.

Another class of writers the novice in poultry keeping would profit by letting alone, is composed of those who are always telling of the dangers lurking in feeding corn to fowls. Personally, if I were reduced to the necessity of feeding a single kind of grain exclusively, I would rather it were corn than wheat. I feed wheat also, but in much less quantities than corn. Corn is not only a good grain, but is also so much cheaper than wheat that it might be profitable to feed considerable quantities of it even if it did not give quite as good results. Corn cannot safely be fed as freely to laying hens in hot weather as in winter. It is the failure to recognize this fact that is responsible for many failures to get good results from feeding corn in summer. Corn is heating, and has a tendency to fatten readily unless provision is made for offsetting this difficulty. The keeper can easily control this condition by giving the fowls a chance to take easy and regular exercise. Our method of feeding for eggs in summer does not differ materially from that used in winter, except that less corn is used in the ration.

Our hens kept for supplying eggs for market are in flocks of 25 each, with yards 30 feet wide by 135 feet long. This gives them a fairly good grass range, but not sufficient to keep the whole yard in grass. The next yards we build will contain not less than 6000 square feet. This gives each hen something over 200 square feet, which is what we consider about the right allowance of yard room.

We feed a mash in the morning made as follows: Three parts bran, two parts corn meal, one part best middlings or red-dog flour, one-half part meat meal. When we can get good beef scraps, we use that instead of the meat meal, keeping it in a hopper constantly before the fowls. The

(Continued on Page 287.)


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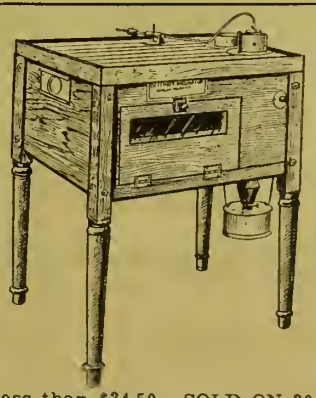

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# Irrigation and Forestry

## NATIONAL AID TO IRRIGATION.

A GREAT many Easteru farmers have always insisted that it ls unfair to them, or the descendants of them, who, with extreme toil, and often in great peril, at their own cost literally hewed their way through a wilderness to clear and improve their own farms, to expose them to the competition of what they call "state aided farmers" They bitterly opposed the passage of the national irrigation act claiming that the public lands the proceeds of whose sales are devoted to irrigation were the property of the whole Nation, so that to the extent that Eastern farmers have interests in the public lands their own property is wrongfully taken to pay the cost of creating unfair competltion. To the argument that these new irrigated lands devoted to intensive and special farming will make markets for the products of Eastern factories whose workmen will consume the products of Easteru farms they Jenied that this indirect benefit would offset the damage of this unfair competition and insisted that not for a generation, at least, would there be any necessity for opening up the arid lands to settlement. They pictured to themselves the whole continent west of the 100th meridlan cut up into small farms, irrigated at their expense and freely given away to whomsoever would take them.

Since the passage of the act the Eastern agricultural press does not devote so much space to the subject, but so far as it refers to it, the same views are expressed and with the same bitterness. Some of them have learned that instead of irrigating the whole western half of the continent, comparatively small portions can ever be irrigated. So far from "giving away irrigated farms," the cost to the settler for an improved farm will exceed the price at which most farms can be bought already improved in the Atlantic states, and settlers of small means are not likely to be able to meet their payments, so that Congress will doubtless be compelled to extend the time of payment. In fact, it should have been recognized at first that ten years was too short a time. All other countries which assist farmers in such ways give a full generation for the payment, but they charge interest, which we do not. In the end all these irrigated lands will become very valuable—some much sooner than others—but in the meantime, for the "poor man" there will be hard pioneering, and with all that can be done by irrigation, population will increase much faster than agricultural products. The farmers of the United States are the most prosperous class of our people and their future is safest. The "competition" of the irrigated lands in the arid states is not and will never be noticeable The management of the national irrigation fund is not wise, but it is as prudent as that of our other governmental functions. Local insistence doubtless is compelling some projects to be developed before their time. Official enthusiasm aided to cover the whole field as nearly as possible at once. Congress erred in requlring payments to be made In ten years without interest instead of thirty with interest, and in permitting any one to settle on the land and do with it as he pleases, instead of as as in other countries, requiring of settlers without means some evidence of fitness and compelling them, until some payments had been made or substantial improvements made and paid for, to work under direction, paid for by those directed. All that, however, is quite In accord with our happy, go-lucky American way and was to be expected The nation, like other nations, will grow wiser as it grows older. We shall have some costly experience and in due time shall profit by it. But with all our awkwardness and extravagance, the whole country will gain by the national conservation and development of national domain.

We have before us an address delivered by Gilbert M. Tucker, editor of the Country Gentlemen, before the National Farmers' Congress in 1902 in which certain evil social rural tendencies are noted whlch it was alleged that national aid to irrigation would Intensify. A farmer "of considerable means" is quoted as follows:

"The fact of it is, the drift of things in this country ls steadily reducing our farmers to the condition of the peasantry of the old nations of Europe, a condition in which sustenance, of a very plain sort, may reasonally be expected, but in which there is positively no hope for anytning better than unceasing toil, no opportunity whatever of accumulating the most modest competence."

Mr Tucker amplifies this and deplores the increasing tendency to landlordism and tenant farming. Doubtless it is to be deplored. In no other land is there to be found the counterpart of the independent American farmer tilling with his own hands a substantial acreage owned in fee simple. The type has existed elsewhere, but has not been able to persist. It is not certain that the American type will persist, but if anything will maintain it it is settlement under the national irrigation act, when water will be supplied only to those owning and living on the irrigated farm, and to them only on a strictly limited acreage. Extensive landed estates worked by tenants will never be possible under a national ditch. It would seem that Mr. Tucker has a subconscious feeling, probably not recognized by himself, that there is after all a real fitness of things in the "gentleman farmer" earning his bread by the sweat of other men's brows, for later in his address he says, referring to these irrigated lands:

"A second channel of mischief is the absorption of the new lands by the men and women who ought to supply, and in the normal condition of things would supply, an abundance of labor, at moderate wages for established farmers. The demand for really efficient help, at prices that farmers can afford to pay, is left largely unsatisfied, to the injury of the farming interest, and perhaps most of all to the overburdening of the wife of the small farmer with tasks of which hired servants could greatly relieve her—by the facility with which the persons who ought to supply it can go West and become farmers on their own account, your property and mine being freely offered them for that purpose."

Somehow that sentiment does not seems to comport well with the anxiety displayed earlier in the address for the preservation of the typical American farmer.—San Francisco Chronicle.

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# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Bloody Milk.

I have a cow that has been giving bloody milk for ten days. Can not account for it as she has had no ill treatment to my knowledge. Her feed consists of bermuda, salt grass, alkali weed and some alfalfa. She aborted four months ago.—Subscriber, Laton.

As this trouble started suddenly and not at the time the cow freshened I should think it was more than likely to have come from a bruise and if so it will pass away in a short time. Cows often hurt themselves in getting up and down for they slip around considerably. There may be udder lesion as this cow aborted and then gave bloody milk. It is safe to test all cows that abort as the tuberculin does them no harm and it assures the owner that the udder is not affected by a tubercular abscess. There is nothing that is a cure for bloody milk except nature. If the cow passes the test the milk may be used for feeding the calves.

### Silo Stack.

How can the freshly cut stalks of sweet corn be best converted into a winter feed for milk producing cows? To make silage is it necessary to have a tight silo? There is a good deal of waste when cured in the shock and the stalks fed whole, but on the other hand it might not pay to convert a couple of acres of corn into silage for two cows only. Would green alfalfa mixed with corn make a more balanced ration?—C. T. P., Redlands.

The question as you state it is exactly the reason that people build silos or buy shredders for the dry corn fodder. There is no way that it can be used successfully without waste, except by one of these methods. We have at times put in layers of green corn ten inches thick in the hay stacks or in the mows and covered them with a good four feet of dry hay. This saves the corn from rotting, if the weather has turned damp, but it does not cure the corn so that the cows will eat it up clean. When the same corn is siloed there is absolutely no waste if fed with any degree of intelligence. The part left by the cows is all consumed by the dry stock. It is absolutely neccssary that a silo should be air tight on the sides. The silo stack is sometimes used by stacking the corn on a foundation of hay, after it is closely piled up and tramped down, then again covering it heavily with hay and covering the sides three or four feet deep in the hay. Then weight it with heavy weights on ropes. Boards are laid on the top and the iron weights are tied on ropes across the boards hanging free at each side. These stacks are common in Southern Germany and are said to preserve the feed quite well. The stack should be twice as high as it is broad and there should be at least six feet of hay on top. It is fed out by cutting down on the end with a hay knife each day's feed. I have never built one of these stacks myself but have seen many of them in use. Two cows would not justify the building of a silo, as at least two inches must be fed off each day to prevent the silage from moulding. As to the question of mixing the alfalfa and corn in the silo, it is better to keep them separate until you come nearly to the end of one kind of feed. Then we like to begin to throw in the other, so that there will be a little sloping off from one kind to the other without a sudden change. No animals will do well when the feed is abruptly changed on them. I sometimes think if we would watch ourselves we would find it equally true that the digestion is easily disturbed when one kind of food is suddenly eaten to excess—M. E. S.

### Fence Post Dip.

What dip can I use for preserving fence posts? Is coal tar good?—T. H. S., Los Angeles.

A dip of creosote is considered the best preservative for fence posts. To obtain the very best effects it should be heated and the posts dipped up to a few inches above where they will project above the ground. This will cost about ten cents per post. Coal tar heated and used as dip is also excellent. In fact, any similar mixture which will keep the moisture from the wood is all that is needed. The creosote possesses in addition to this property that of a preservative.

### Late Cultivation.

Back east we were advised not to cultivate after a certain time in the fall. Does that rule apply here? My orchard is of young deciduous trees. —T. H. S.

We think there is more danger in allowing young trees to go uncultivated and unirrigated late in the season than there is from overcultivation. For instance, trees which are now beginning to suffer for water, if allowed to go without further irrigation or cultivation, become dormant before their proper season, and then an early warm spell, perhaps in January, with plenty of moisture in the soil, causes them to spring into bloom and perhaps leaf out. Later cold weather again causes the tree to become dormant, and great injury will be shown at the proper leafing time. It is barely possible that irrigation and cultivation may be kept up and late fall growth stimulated so that slight injury may be caused by early fall frosts, but this possibility is so remote that we would prefer risking this contingency to the other.

### Black Eyed Beans.

Is there any difference between black eyed peas, black eyed beans and cow peas? Will any of them survive sharp frosts? I am now preparing to plant them for cover crop. —Subscriber, Bakersfield.

The so-called black eyed pea and black eyed bean are the same, at least in the minds of most California bean ranchers. The cow pea is materially different, being a stronger growing vine. The stalks sometimes grow nearly as large as the finger and twice as high as the ordinary black eye. A hard frost will discourage any of them. See leading articles in last week's issue regarding best seed for cover crops. Cow peas make a fine summer cover crop.

### Kaffir Corn.

Have been told that kaffir corn in second cutting is poisonous to stock. Is there any danger in feeding to horses or cattle?—C. S. C., Anaheim.

There have been a few, very few, times when the sorghum plant has gathered up prussic acid into its leaves. These times have been too rare for us to abandon a valuable cheap feed which has caused not a thousandth part of the loss that has come from alfalfa bloating. Do not overfeed until the stock are used to it. We have fed freely first, second, third and fourth growth a season without harm.—M. E. S.

### Output of Beans.

Is there any old crop of small white beans in stock in California? The crop in this county is fair but the acreage very small. I think the new crop will go to eight cents before spring. Have contracted for five cents.—G. W. L., San Luis Obispo.

We have made inquiry as to hold over crop and as to possible prices and find the old crop is light, but eight cents before spring is certainly a liberal expectation. They were quoted in last week's Cultivator at $6.50 and $6.75 in Los Angeles and $7.00 and $7.25 in San Francisco, but it must be borne in mind that these are the wholesalers' prices in those two cities. The jobber who disposes of them to the wholesaler has of course made something at this quotation. A five cent contract to the producer is generally thought an exceptionally good price.

### Salt Bush.

What kind of weed is the enclosed? It is very thick this year. Some of it grows to a great size, and when ripe breaks off at surface of ground and blows around like tumble weed.—E. L. P., Macdoel, Siskiyou Co.

This was referred to Dr. A. Davidson, botanist of Los Angeles, and he writes: "This plant is a common one in California and is one of the numerous salt bushes native to the Coast, found especially in alkali ground. It is atriplex microcarpia."

### Stunted Pig.

My pig four months old is stunted. Eats well, but cannot stand long and staggers.—B., Hanford.

As I do not know how long this animal has been afflicted in this way it is hard to tell what is the matter.


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They are the easiest to raise, and will begin laying when the eggs are high. We will have off a BIG HATCH every week, send today for price list, and full particulars. If you buy chicks now and make a small deposit you can get them any time and at the same old prices. Later when eggs get high we will have to raise the price on chicks. Hadn't you better send in your contract now and buy at the low prices while you can. Later you will pay more money for the same chicks. We are giving you a chance. Better investigate today. Our chick book is free.

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The SOUTHARD NURSERIES, Redlands, Cal.

COULSON'S POULTRY FOODS MADE IN PETALUMA GUARANTEED SOLD EVERYWHERE

If he was mine, as he is a stunted specimen, I should simply destroy him. If the domestic animals have not vigor and strength they are not worth raising. The cause is probably rickets and that is prevented by feeding the sows bone making materials. If you feel this pig must be doctored try feeding him a pound of bran with a heaping tablespoon each of sulphur, ground bone, and charcoal added to it.—M. E. S.

### Milking Machine.

Will it pay a man who wishes to milk a string of 20 or 30 cows and do all of the work himself, to put in a milking machine?—W., Holtville.

This is a question on which there might be a difference of opinion. I personally have not seen the desirable milking machine. The reason I have not taken it up is that I have never seen milking machine cream that did not have a taint from the machine, a smell and taste of oldness that was not pleasant and indicated that the cleanliness of the machine was not perfect. While this may be the fault of the operator, I still think it is apt to be the case whenever the machine has been in use a long period. I believe that the milking machine will come alright and that today it is probably as good as the automobiles were four years ago. See how they have improved!—M. E. S.

### Fleas.

Your correspondent at Auld, Riverside county, asking for an unfailing remedy for fleas should get 3 or 4 sheep and keep them around infested premises. The wool will catch the last flea. Failing this (as not convenient), he can use gas lime as the next best remedy, simply sprinkled around on the ground will fix them.—L. D. H., Greenfield.

### Thoroughbred.

If a thoroughhred sire is bred to common cows and their offspring is again bred to a thoroughbred, when, if ever, are their progeny rated as thoroughhreds?—P. A., Fresno.

Never. When an animal is not full hlood it simply is a grade and cannot he made anything hut a grade. The word thoroughbred is used by stockhreeders as applied only to the running horse. All other animals are called purebreed or full hloods. To be this both sire and dam must he registered in an official hook hacked hy an Association before the offspring can be entered. The hest Associations are run hy breeders themselves joining in and becoming members. In return for the membership fee they pay they receive the herd books as issued by the Association, and also a reduction of the fees for registering the animals they hreed. The Government recognises these associations and their records have a standing in courts.—M. E. S.

### Soft Scale.

I have red scale on grape fruit tree which nearly destroyed it last year. What shall I do to save the tree?—E. H.

Accompanying the above letter was a grape frult leaf badly infested with soft brown scale. If that is the "red scale" which our inquirer means, we would refer him to the answer hy Mr. Pease to a similar query in the issue of Sept. 9, page 258.

### Eucalyptus for Fuel.

Please inform me which is the best variety of eucalyptus to grow for fuel in Santa Cruz county, and where can I obtain plants or seeds?—L. N., Santa Cruz.

Not knowing the conditions as to temperature in the section, we could not answer that question with any degree of definiteness. If the thermometer does not register below 22 or 26 degrees, the blue gum (globulus) would probably be the best. It is the most rapid grower we have and where the frost does not affect it, is by all means the most desirable. In the San Joaquin Valley we believe the red gum is preferred, especially in the lower sections where there is a good deal of frost. Plants or seeds may be secured from any seed man or nursery man advertising in the Cultivator.

### "Sulphuret."

No questions anwered unless they are signed or accompanied by signature of the writer.

## HARVESTING THE BIG CANADIAN WHEAT CROP.

Harvesting the one hundred and thirty million hushels of wheat in Western Canada is not without its dramatic and humorous sides. One of the incidents is graphically described this week, by the Manitoha Free Press in this way:

"A procession of ten passenger trains, each of them from 18 to 20 coaches in length, pulled out from the vicinity of Montreal and Toronto last Thursday and filed at top speed around the great curve of Lake Superior on the C. P. R., headed for the West. Laden with a cosmopolitan mixture of 6,000 harvest hands, jumbled together as indiscriminately as one would shuffle a poker deck, they arrived in Winnipeg hetween Saturday at noon and Sunday at noon. People in the vicinity of the depot knew that they arrived, that is, those who have not been deaf since infancy, for the advent of every unshaven and begrimed battalion was announced by a wild cheer that emanated from the first coaches and spread into a deafening roar as the train pulled into the trainshed and the following coaches took up the cry of pent up relief and gladness. It was more like the arrival of a crowd of holiday spirits given a respite from work for a day, than one expectant of many a hard day's work in the harvest field."

When the green stalks are given to hogs care should he used to prevent cattle from having access to the woody fiher which the swine will leave after chewing the stalks. Pigs relish chewing the stalks for the sweetness in it, hut leave enough saccharine matter in the fiber to make it attractive to cattle, especially the younger stock. This fiher is indigestible, and the cattle, if allowed to pick it up, will frequently eat a sufficient quantity to cause impaction and harmful if not fatal results. It is not safe to let cattle into yards where swine are given green corn stalks.—From Coburn's "Swine in America."

Even when corn is high the relative price for pork frequently makes it the cheapest feed for finishing; fifty-cent corn is not expensive feed for six-cent hogs. Up to the last six weeks of feeding, wheat, rye or other cheaper suhstitutes may be used with grass, but in the ordinary course corn will be the best dependence for the close of the fattening period.—From Coburn's "Swine in America."


# Classified Liners

Rates 1½ cents per word per issue No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

### MISCELLANEOUS.

THE ANCHOR EGG SEPARATOR works perfectly; no well regulated hotel or household can afford to be without it." So says Delmonico's Chef. Send ten cents or ten names of persons keeping poultry, and we will send one postpaid. Or for 25 names we will also send postpaid "THE POULTRY MANUAL" by those high authorities, F. L. Sewell and Ida R. Tilson, profusely illustrated. WEST COAST MILL CO., 705-709 So. Griffin Ave., Los Angeles, Cal.

FORTUNES IN SUGAR—STOCK FOR sale in a new sugar cane plantation. Small monthly payments will secure for you an interst in this great enterprise, that will pay you an annual income for life. Write for booklet, LOS HORCONES PLANTATION CO., 724 Grosse Building, Los Angeles, Cal.

WANTED, 5,000 BLACK WALNUT AND 5,000 Santa Barbara Walnut trees, one and two years old, for grafting purposes, December delivery. WM. RICHARD, 438 River St., Santa Cruz, Cal.

EDISON PHONOGRAPHS. THE NEW kind, the best entertainers on earth. We deliver free. Ask for catalog, full line of records. COLUMBIA COMMERCIAL CO., 204 East 9th St., Los Angeles, Cal.

### FERTILIZERS.

SULPHATE OF POTASH
$60.00 per ton.
For a short time we will sell Sulphate of Potash at $60.00 per ton.
This is the right time to apply it for maturing the crop and the new growth of wood.
This price won't last. Get your supply now from the Armour agent in your district.
THE ARMOUR FERTILIZER WORKS, Los Angeles and Colton.

### ORANGE SEED BED STOCK.

FOR SALE—SOUR ORANGE SEED bed trees now ready for fall planting. I have a fine lot of Florida sour stock which is proof against gum disease and in great demand. Nursery stock planted September and October, or as late as November, make a root growth which will better withstand the hot weather usually following spring planting. W. H. HILYARD, Orange, Cal.

### HELP WANTED.

WANTED—EXPERIENCED MAN TO take contract to bud twenty-five thousand trees, must furnish reference. C. A. MYERS, 205 Grant Bldg., Los Angeles, Cal.

### RUBBER STAMPS.

SEND IN YOUR ORDERS FOR RUBber stamps, dies, stencils, etc. Catalogue on request. F. W. HOPKINS PTG., CO., 641 S. Main St., Los Angeles, Cal.

### POULTRY.

PIT GAMES—SOUTHERN AND GRADE Japs. O. L. CRANE, Route 3, Santa Rosa, Cal.

CHOICE BROWN LEGHORN ROOSTers, four months old, $1.00 each. T. P. SWIFT, Selma, Fresno County, Cal.

### SHOPPING BY MAIL.

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### BEES.

75 COLONIES BEES FOR SALE. Best hives, straight worker combs, full equipment of top bodies, comb honey supers and necessary implements. M. H. PHILLIPS, Glendora, Cal.

### HEALTH.

CONSTIPATION, INDIGESTION AND all diseases of stomach, liver and bowels, cured without medicine or expense. Send for free diagnosis blank. NATIONAL HEALTH LEAGUE, 545 Douglas Blk., Los Angeles.

### HOMES FOR CHILDREN.

HAVE YOU A BOY? IF NOT, LET us send you one. We want country homes for boys of all ages. Arrangements to suit. CHILDRENS' HOME SOCIETY, 2414 Griffith Ave., Los Angeles. Cal.

### HONEY.

SAGE HONEY, GUARANTEED ABSOlutely pure. One 5 gal. can, crated, f.o.b., $4.25, two 5 gal. cans, crated, f.o.b., $8.00. HENRY E. HORN. Riverside. Cal.

### STOCK FEED.

LIKE GREEN GRASS, SUGAR BEET Pulp makes cows give milk. Write LOS ALAMITOS SUGAR COMPANY, Los Alamitos, Cal.

### FARM LANDS FOR SALE.

IMPROVED AND UNIMPROVED ranches for sale, any sized acreage, in THE FAMOUS COACHELLA VALLEY. The earliest fruit and vegetable producing country known. Prices per acre reasonable, easy terms. For further information call on or write, WM. L. KEITH, Thermal, Cal.

I MAKE A SPECIALTY OF ORANGE and alfalfa ranches and exchanges. 826 Main St., Room 9, Riverside, Cal. N. R. BELL.

160 ACRES OF ALFALFA LAND, WITH ditch water right, three miles from railroad, for $30 per acre. Come to Sanger and let us show you this. We have a number of extra good buys. THE CITRUS LAND CO., Sanger, Fresno Co., Cal.

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### MACHINERY.

FOR SALE—SECOND HAND WIND mills, tanks, pumps and engines at half price. Special this week: 10-in. portable wood-sawing outfit with 9 h. p. engine, complete, 25 cords capacity. A money maker for you. To close an estate. Must be sold this week, $350 for whole rig. Cost $800. Call immediately. DEMMITT CO., up stairs, 120 No. Main, Los Angeles Cal.

FOR EXCHANGE—ONE 4 H. P. Union Engine—Good as new. Bargain. MACHINERY EXCHANGE, Main & Bruno Sts., Los Angeles, Cal.

FOR EXCHANGE—ALL OUR SMALL gas engines. Want the room for larger sizes. BAILIE & BRANDT COMPANY, 943 & 945 North Main St., Los Angeles. Cal.

FOR SALE—RENT OR EXCHANGE, boilers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main St., Los Angeles, Cal.

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### TREES.

FOR SALE—1500 EUREKA LEMONS, 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. B. WARNER, Santa Ana. Cal.

FOR SALE—ABOUT 250 VALENCIA orange trees. Will sell in ground at right prices. Come and see them. M. E. DILLINGHAM, San Gabriel, one mile north of Masonic Home. Phone Black 198, Alhambra Home.

FOR SALE — STRONG OUTDOOR grown rooted cuttings. Send for 1-2-3 cent list. Other plants. Fine lot Blue Gums qt. tins—3 to 4 ft. GEM NURSERY, Los Gatos, Cal.

### TREES WANTED.

WANTED TREES—A FEW THOUSsand apricots, peaches, pears, etc. IMPERIAL VALLEY NURSERY. Imperial, Cal.

### RARE PLANTS.

WILD PLANT IMPROVEMENT GARdens, Santa Ana, California, NEWTON B. PIERCE, Proprietor. Rare, choice ornamentals and new fruits from all lands.

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SPECIAL — FOR SALE, HOLSTEIN bulls, two old enough for service and a number of yearlings. Also a few calves that are small enough to crate. Julianas, De Kols and all the strains for which this herd has been famous are represented. The only cows to hold World Records raised in the state were bred on this ranch. Same blood still represented largely in the herd. MINNEWAWA STOCK FARM, Fresno, Cal.

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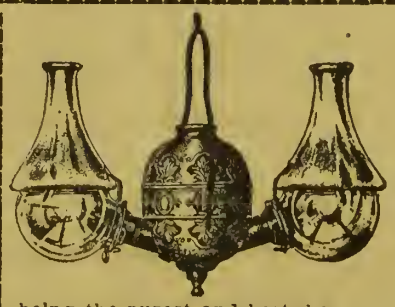

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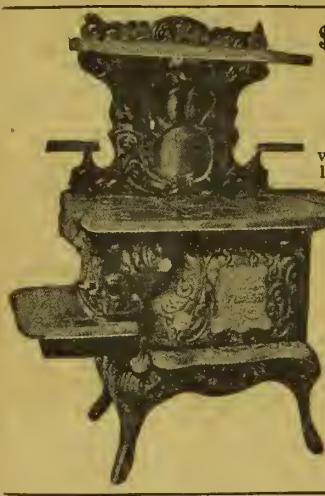

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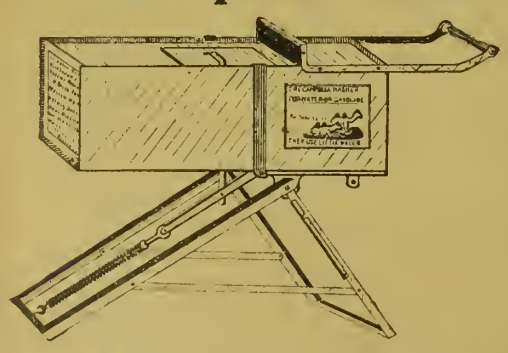

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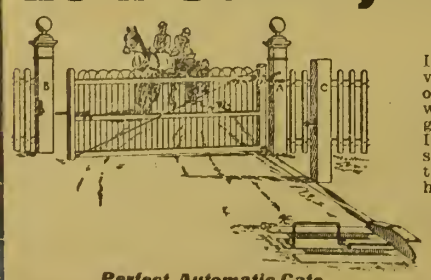

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# Household Department

## THE PRAYER-PERFECT.

Dear Lord, kind Lord,
  Gracious Lord, I pray
Thou wilt look on all I love,
  Tenderly today!
Weed their hearts of weariness;
  Scatter every care
Down a wake of angel-wings
  Winnowing the air.

Bring unto the sorrowing
  All release from pain;
Let the lips of laughter
  Overflow again.
And with all the needy
  O divide, I pray,
This vast treasure of content
  That is mine today!

—James Whitcomb Riley.

## THE RED DESIRE.

THE Tracy's goat was well known all over the ward for a philosopher and an optimist. Trouble went not with his long, white beard, and laughter followed in the wake of his red express.

Before his coming there has been strife and unhappiness in the house of Tracy. The baby had been peaked and fretful; the twins had fought too much even for twins; Mrs. Tracy had brooded too long on the hallowed memory of her famous ancestors, and Tracy himself lost his rotundity of face and expansiveness of smile in the constant struggle with butcher and baker and candle stick maker.

But with the coming of the goat—bright fortune smiled. Daniel Alexander Tracy, the baby, rode the animal's back into the sunshine of health and rosiness. The twins had ceased their brawling to devise quaint harnessing schemes for the new pet. Mrs. Tracy forgot the blessed dead and she made a beautiful blue ribbon collar for the goat, which he afterward chewed off; and Tracy laughed the rotundity back into his face, and with it the energy and resourcefulness into his system. So they named the goat the Knave of Hearts, and everybody waxed fat and prospered.

The Knave of Hearts had very peculiar notions as to diet and forage. For instance, he had always displayed a strange love for things of blood red hue. He had been known to nibble for hours at a crimson painted lamp-post, and his favorite brand of canned goods wrappers was the kind that show the huge scarlet tomatoes—the twins were quite sure the Knave also ate the can. The O'Briens next door had to guard Mr. O'Brien's vivid shirts on the clothesline regularly every Monday, and on Decoration Day the Knave made a tidbit of half of the flags on the block.

Things were in this happy state when Mrs. Tracy came into possession of the Hyderabad Ruby. It was a heritage from the blessed ancestors, and the presence of the splendid, red gem seemed to bring her back to the unsatisfactory frame of mind that had prevailed before the coming of the Knave of Hearts. She would sit and fondle the bauble, neglecting Daniel Alexander, the baby; ignoring the noisy twins; slighting the goat, and vexing Mr. Tracy.

Things became worse and worse until Mr. Tracy arose in wrathful rebellion. "Gimme that red devil-glass!" he commanded.

"It's throwin' it into the ash cart I'll be after doing this minute!"

"No—no—no!" blazed Mrs. Tracy.

She arose and held the radiant, red gem between her fingers, tightly clenched behind her back.

"Gimme the hoodoo-joo!" ordered Mr. Tracy.

The baby cried heartrendingly; the twins tore each other's curly locks. The goat, walking in from a light repast on Mr. O'Brien's crimson sweater, looked at the antagonists.

"Gimme the evil sparkle!" cried Mr. Tracy; and the Knave of Hearts walked around and nipped the dangling red bandana from his pocket.

"Never in the world!" retorted Mrs. Tracy; and the Knave with an eye to smaller delicacies, strolled around and licked at her hands.

"Heavens!" gasped Mrs. Tracy. "The ruby has disappeared!"

"Then praise be!" exclaimed Mr. Tracy; and he began to smile expansively. The baby caught the contagion and crowed shrilly. The twins ceased to battle and brought out the new string harness. The Knave of Hearts faced Mrs. Tracy and wiggled his patriarch beard very teasingly.

"He has swallowed the Hyderabad ruby," said Mrs. Tracy with a sigh of relief. "I don't believe I'm sorry."

"It's the blessedest thing the Knave ever did!" declared Mr. Tracy.

Afterwards they treated the Knave of Hearts to a delectable mass of the baby's faded, red hair ribbons.—Ex.

## HELP IN EMERGENCIES.

FOR THE little accidents that seem more prevalent during warm weather it is well to have simple remedies at hand, along with court plaster, bandages and a ball of knitting cotton, as these will cost little and be in constant demand for cuts, bruises and the sundry small accidents every family is heir to.

When any foreign substance gets into the eye, beat up the white of an egg with about a teaspoonful of powdered alum, spread this on a cloth and lay it over the eye. This will usually collect any foreign substance and bring it to the surface

An excellent salve for poison oak is made by mixing well together equal parts of lard and quinine and applying to the affected parts.

Every mother should have a bottle of boric acid solution where she can get it at a moment's notice as the boric acid is perfectly harmless and is exceedingly beneficial as a dressing for cuts and wounds and the acid can be used freely either in powder or dissolved in water. The solution is made by dissolving two heaping tablespoonfuls of boric acid in a quart of hot water.

For insect bites moisten borax powder to a paste and bind over the affected parts and keep the bandage moist with the borax solution until the soreness is all gone.

For a sprain take some peach leaves, bruise them well and bind them on securely and they will give almost instant relief.

For hiccough, heat some sweet milk to near the boiling point and give in small quantities at a time until the hiccoughs subside.

For scalds or burns, cover with baking soda, wrap closely with a soft

cloth and saturate the bandage with coal oil.

These simple remedies have not only saved doctor's bills but much suffering and very often loss of time from work, and every woman should have a knowledge of the simple home remedies and how to use them.—Martha.

### A NEW WAY TO CAN TOMATOES.

Last summer I tried a new method of canning tomatoes, and it proved so satisfactory that I want to pass it on. Scald and peel the tomatoes as usual. Have the cans sterilized, place the raw tomatoes in them whole, pour boiling water to fill the cans, running a knife around in the cans, so that all the crevices are filled, then put on the cover. Place the cans in a boiler or large vessel, pour in boiling water till it reaches the neck of the can, put the lid on the boiler, wrap it with a blanket or rug, and leave until the water is cold, which will be next morning. The cans are then ready to put away. I did not lose a can out of forty quarts. When the cans were opened, the tomatoes were whole and firm enough to slice easily.—Woman's Home Companion for September.

### DO YOU WANT TO BE BEAUTIFUL.

Then see that your room has plenty of fresh air at night. You should have your windows open both at bottom and top. If you do not like a draft upon the bed, made a folding screen for protection. Any girl may do this for herself. All she needs is an old-fashioned two-leaved clothes-horse, over which she may fasten selisia with small brass-headed nails. or if she prefers she may paste on it a pretty paper to match that of her room. Begin with an inch or two if you have been sleeping in a close room, and gradually increase the space of your open window, always keeping an extra cover at the foot of the bed for the chilly time which comes toward morning.

Remember, that fresh air during sleeping hours is absolutely essential to health and beauty.

### JUST BE NATURAL.

Do not make yourself unhappy if you cannot change old furniture for the modern style your heart desires. First study closely possibilties of what you have. Learn to group like things together. Study harmony of color and design. Do not allow colors which do not harmonize next each other. In selecting floor coverings and wall paper, shut your eyes to florid patterns in bright colors. Do not "sky" your pictures. Bring them down where the eye can enjoy them without stretching the neck. It is the warm, cheery, hospitable spirit that makes a room beautiful. Just be natural.

Always fill your cup with love and cheer for your home people, giving the overflow to outsiders.

### SOAP.

This is a reliable recipe for making soap: To eight pounds of grease take two cans of lye and seventeen quarts of rain water and one-fourth pound of rosin and one-half pound borax; then boil for an hour or a little longer. Add a quart of water when finished boiling.

In Japan paper is used for almost everything, from the silver-figured partitions of the Buddhist temple to the rude hut walls of the laborer; from the silk-like vestments of the priest down to the rainproof shield of the traveler. In fact, the ingenuity of the Japanese is only matched by the variety of uses to which paper may be adapted.

### THE CROWNING INDIGNITY.

Just 'cause my brother Alfred, he
Is two years older 'an me,
W'y ever'thing he gets 't's new
They give to me when he gets through.
I try my best to not to grow
An' catch up with his old things so,
But when he gets too big for clo'es,
W'y, I've growed just exactly so's
They'll do for me—an' then I've got
To keep on wearin' 'em a lot!

My brother Alfred's pants just wait
An' never get tored in th' gate
Or ripped on nails, or wored out none
Until my catchin, up is done.
When he gets new ones, my ma, she
Says his old pants will do for me,
An' Alfred grins, an' looks so glad
It always makes me awful mad!
An' ats' th' way, it always goes—
I even get his underclo'es!

But now it's worse an' ever! I'm
Just mad clean through and through
this time.
It's got to more 'an I can stand—
This gettin' his things secon'-hand!
An' I told ma 'at I think it
Is purty near th' time to quit.
My brother Alfred, he's been sick
With measels—he was speckled thick,
But now he's through with them, you
see,
He's gone an' given 'em all to me!
—Harpers Magazine.

### EASY LIVING.

Dar's two times in de year dat Gord
Made for de nigger sho',
Two times when he's so rich he don't
Ask Gord for nothin' mo':

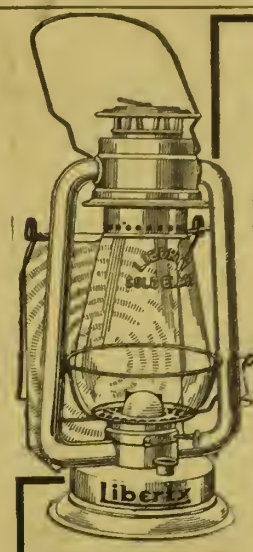
Blackberry time is one, for den
He neither hoes nor sows;
De nigger knows his daily bread
Right on de bushes grows.

De other's Watermilion time;
An' den—Lord bless your soul!
Bof bread an' water grows for him
In one big cool green bowl!

### LUCK.

The boy who's always wishing
That this or that might be,
But never tries his mettle,
Is the boy that's bound to see
His plans all come to failure.

Progress in the sense of acquisition, is something; but progress in the sense of being, is a great deal more. To grow higher, deeper, wider, as the years go on; to conquer difficulties and to acquire more and more power; to feel all one's faculties unfolding, and truth descending into the soul—this makes life worth living.—James Freeman Clarke.


A Bigger Light
A Brighter Light
A Stronger Light
A Longer Light

Liberty Lanterns

A special wick-regulating device prevents a flame with "horns" on the sides, it can be turned up higher than others. Air supplied in just the right proportion, it gives a brighter, whiter, stronger light. Burns longer with less oil than others.

**Prices from 60c. to $3.50.**

Don't be persuaded to buy the "just as good" kinds. Buy the best —LIBERTY LANTERNS.

*If not at your dealer's, write us.*

SIMMONS HARDWARE COMPANY (INC.)
ST. LOUIS AND NEW YORK, U. S. A.



## Report of the Condition of

# The First National Bank of Los Angeles

### At the Close of Business September 1, 1909

**RESOURCES**

| | | |
|---|---|---|
| Loans and Discounts | | $10,857,746.03 |
| Overdrafts, secured and unsecured | | 25,213.83 |
| U. S. Bonds to secure circulation | | 1,250,000.00 |
| U. S. Bonds to secure U. S. Deposits | | 305,000.00 |
| U. S. Bonds on hand | | 55,000.00 |
| Premiums on U. S. Bonds | | None |
| Bonds, securities, etc. (bonds only) | | 829,232.00 |
| Due from National Banks (not reserve agents) | $ 846,945.92 | |
| Due from State Banks and Bankers | 253,668,75 | |
| Due from Approved Reserve Agents | 1,021,438.78 | |
| Checks and Other Cash Items | 210,810.73 | |
| Exchange for Clearing House | 266,131.32 | |
| Notes of Other National Banks | 63,293.00 | |
| Fractional Paper Currency, Nickels and Cents | 7,881.08 | |
| Lawful Money Reserve in Bank, viz.: | | |
| Specie $2,211,805.00 | | |
| Legal tender notes 280,800.00 | | |
| | 2,492,605.00 | |
| **Cash and Sight Exchange** | | 5,162,774.58 |
| Redemption Fund with U. S. Treasurer | | 62,500.00 |
| Total | | $18,547,466.44 |

**LIABILITIES**

| | | |
|---|---|---|
| Capital Stock Paid In | | $ 1,250,000.00 |
| Surplus Fund | | 250,000.00 |
| Undivided Profits, Less Expenses and Taxes Paid | | $ 1,439,393.78 |
| Circulating Notes Secured by U. S. Bonds | $1,250,000.00 | |
| Less amount on hand and in Treasury for Redemption or in Transit | 634,802.50 | |
| National Bank Notes Outstanding | | 615,197.50 |
| Due to Other National Banks | $1,427,068.00 | |
| Due to State Banks and Bankers | 928,634.31 | |
| Due to Trust and Savings Banks | 1,400,364.16 | |
| Dividends Unpaid | 1,320.00 | |
| Individual Deposits Subject to Check | 10,578,390.86 | |
| Demand Certificates of Deposit | 128,529.62 | |
| Certified Checks | 43,216.87 | |
| Cashier's Checks Outstanding | 203,511.76 | |
| U. S. Deposits | 272,913.58 | |
| Letters of Credit | 8,926.00 | |
| **Total Deposits** | | 14,992,875.16 |
| Total | | $18,547,466.44 |

No Real Estate. No Furniture and Fixtures. No Premiums on U. S. Bonds.

STATE OF CALIFORNIA, County of Los Angeles. ss

I, W. T. S. Hammond, Cashier of the above named bank, do solemnly swear that the above statement is true to the best of my knowledge and belief.

W. T. S. HAMMOND, Cashier.

Subscribed and sworn to before me this 8th day of September, 1909.

W. N. HAMAKER, Notary Public.

Correct—Attest:

J. M. ELLIOTT, G. E. BITTINGER, WALTER J. TRASK,
STODDARD JESS, J. C. DRAKE, E. J. MARSHALL, } Directors.
W. C. PATTERSON, M. H FLINT, J. O. KOEPFLI.

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Sept. 15, 1909.

### Butter.

Butter has advanced 2½ cents again and is firm at present quotations..

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

Creamery per roll .....65@67½
Dairy per roll .....30
Eastern creamery per lb .....30
Cooking .....30
Ladies .....25@26

### Cheese.

Southern California Anchor .....20
Northern fresh .....18
Anchor Young America .....21
Domestic Swiss .....21@23
Imported Swiss .....30@32

### Eggs and Poultry.

Case counts have advanced four cents during the last few days and extras now stand at 42 with a general good tone.

Paying price f. o. b. L. A. are:

Eggs .....40@42
Case count buying price .....36
Eastern .....34
Storage .....32

Dealers pay for live poultry f. o. b. L. A.:

Hens per pound 3½ up .....15
Stags and old roosters .....7
Fryers 2 to 2¾ lbs .....15
Broilers 1¼ to 1¾ lbs .....17
Roasters 3 lbs and up .....16
Turkeys .....18@22
Geese .....12
Ducks .....12@13
Squabs .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds .....7½
Prime steers .....4@4¼
Heifers .....3½@3¾
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.25@3.50
Wethers .....4.50@5.00

### Potatoes.

Wholesale prices are:

New sweets per ctl .....1.50@1.75
Burbank local .....1.25@1.40
Highlands .....1.25@1.35
Lompocs .....1.60@1.65

### Onions.

Wholesale quotations:

Silverskins, local .....75@1.00
Northern Yellow Danvers ...1.15@1.25
Australian Browns per sack .1.15@1.25

### Vegetables.

Artichokes locals .....60@75
Beets per sk .....90
Beans string .....3@4
Brussels sprouts per lb. .....10
Bell peppers .....3@5
Cabbages per sack .....85@90
Celery per doz .....75
Chili per lb .....3@4
Cucumbers per box .....40
Cauliflower per doz .....1.25
Carrots per sk .....90
Corn per box .....50@60
Egg plant per lb. .....3@4
Green onions per doz bunches..20@25
Hubbard squash per lb .....2½
Summer squash per box .....40
Lettuce choice .....75@1.25
Oyster plant .....40
Okra per lb .....5@6
Peas per lb .....3@5
Parsley doz .....25
Parsnips .....40
Radishes per doz .....15@20
Rhubarb, No. Strawberry .....1.50
Rhubarb, crimson winter .....5@6
Spinach per doz. .....15@20
Turnips sk... .....90
Tomatoes lugs .....30@35

### Citrus Fruits.

Valencias .....2.00@2.75
Grapefruit .....2.50@2.75
Lemons .....2.50@3.50
Limes, halves .....1.50@2.00

### Fresh Fruits.

Wholesale prices on the market are:

Apricots per lug .....35@50
Alexanders .....1.00@1.75
Bellefleurs .....1.15@1.25
Fall Pippins .....1.15@1.25
Pearmains Red .....1.25@1.35
Gravensteins .....90@1.50
Casabas per crate .....50@1.00
Cantaloupes Jumbos .....1.35
Figs .....40@75
Grapes lug box .....50@65
Loganberries .....8
Nectarines .....75@1.00
Peaches box .....50@85
Pears Bartletts box .....1.75
Plums .....50@90
Prunes .....1.00@1.25
Quinces .....75
Raspberries .....6@7
Blackberries .....5@6
Strawberries .....5@6
Watermelons per lb. .....1

### Dried Fruits.

Wholesale prices are:

Apricots .....10@11
Evap apples fy per lb .....11
Figs loose .....5
Peaches .....6
Pears .....8
Plums pitted .....8
Nectarines .....7½
Prunes .....3@7½

### Beans Dried.

Wholesale prices are:

Pink No. 1 .....3.50@3.75
Limas per ctl .....4.50
Blk eyes .....3.50
Lady Washington .....4.50
Small White .....6.00
Garvanzas .....4.00@4.50
Lentils .....6.00

### Nuts.

Almonds IXL per lb .....16@18
Pecans polished .....15@16
Peanuts California .....5
Peanuts Eastern .....7
Walnuts No. 1 .....12@13
Walnuts No. 2 .....9@10
Walnuts grafted .....15

### Honey.

Wholesale quotations:

Extracted water white .....7½
Extracted Light Amber .....5½@6
Comb Water White .....15
Comb, white .....14
Beeswax .....25

### Hay.

New Barley hay .....8.50@14.00
Alfalfa, local .....11.00@12.00
New alfalfa Imperial .....10.00@11.00
Northern .....10.50@12.00
Wheat hay .....10.00@12.50
Tame oat .....10.00@15.00

### Grain.

Wholesale selling price f. o. b., Los Angeles:

Wheat new per ctl .....1.90@1.95
Kaffir corn .....2.00
Corn Eastern bulk .....1.75
Egyptian corn .....1.80
White oats .....1.75
Seed Rye .....2.10

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

Cracked corn .....1.80
Shorts .....1.85
Bran .....1.60
Cocoanut cake .....1.85
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....1.85
Feed meal .....1.85
Rolled Barley .....1.50

## San Francisco Markets

SAN FRANCISCO, Sept. 14, 1909.

### Butter.

Extras have advanced one point and packing now stands at 25 or a half cent in advance of last week.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

California extras per lb. .....32½
Cal. firsts .....30
California seconds .....29½
Packing .....25

### Cheese.

California flats .....14½@16
Cal. Young America fy .....15@16
Young American Oregon fy .....16½

### Eggs and Poultry.

Eggs have advanced and all offerings are picked up at quotations.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras .....41½
Firsts .....34
Seconds and thirds .....24@30
Hens per doz. .....4.50@9.00
Roosters .....4.00@9.00
Fryers per doz .....5.00@6.00
Broilers .....3.00@4.00
Geese per pair .....1.50@2.00
Ducks .....4.00@8.00
Turkeys .....18@25
Pigeons young .....1.00@2.25

### Live Stock.

San Francisco prices gross weight:

Steers .....3¼@4⅜
Cows and heifers .....2@3⅜
Hogs .....4½@7½
Calves per lb .....4@5¼
Milk lambs .....5¼@5½
Wethers No. 1 .....4¼
Ewes No. 1 .....3¾

### Potatoes.

Wholesale market quotations:

River Whites .....60@75
Salinas .....1.40@1.60
Sweets crates .....1.40@1.60

### Vegetables.

Wholesale quotations:

Asparagus per box .....50@1.00
Bell peppers per box .....35@50
Cabbage per box .....2.00@2.25
Cauliflower doz. .....75@1.00
Carrots per sk .....65@75
Cucumbers per box .....25@50
Cucumbers, pickles .....50@1.00
Celery, doz .....30@40
Chili peppers per box .....25@35
Corn per sk .....1.00@1.50
Egg plant per box .....65@75
Green peas per lb. .....3@4
Okra .....65@75
Onions green per box .....50@60
Rhubarb per box for bay ....1.25@1.50
Squash per box .....40@50
String beans .....4@5
Tomatoes .....25@65
Wax beans .....2@3
Lima beans .....2½@4
Garlic .....4½@5

### Onions.

Yellow .....65@70

### Citrus Fruits.

Valencias .....1.50@3.00
Grapefruit .....1.00@3.25
Lemons .....1.25@4.00
Limes .....5.50@6.00

### Fresh Fruits.

Apples common .....65@1.00
Gravensteins .....1.25@1.50
Bellflowers .....1.00@1.25
Crab apples .....60@75
Figs blk box .....60@1.00
Grapes seedless .....40@50
Tokays .....50@65
Malagas .....50@65
Rose of Peru .....50@60
Cornichon .....60@75
Muscats .....40@50
Isabellas .....60@75
Zinfandel and wine grapes per ton .....10.00@14.00
Logans per chest .....3.00@4.00
Cherry plums per box .....25@35
Peaches per lug box .....75@1.00
Peaches per lug box clings ....50@85
Plums boxes .....40@65
Plums Tragedy crates .....60@75
Pears Bartletts .....85@1.75
Cantaloupes .....1.00@1.25
Nutmegs per box .....25@50
Muskmelons .....1.00@1.50
Pears box .....60@1.50
Pomegranates .....75@1.50
Quinces box .....50@1.00
Blackberries per chest... ...2.00@3.00
Huckleberries per lb. .....10@12½
Raspberries per chest .....3.00@5.00
Longworth per chest .....3.00@4.00
Malindas per chest .....2.50@4.00
Watermelons per doz .....1.00@2.00

### Dried Fruits.

Prunes 4-size basis .....2¼
Santa Clara .....2⅜
¾ cent premium for larger sizes..
Apricots per lb. .....8@11½
Peaches—Choice ....4¼; Fancy ....6
Apples evap .....5@9½
Pears .....6@9
Figs .....2½@4½
Nectarines .....5@6
Plums .....7@8
Apples .....7½@8½

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do, No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12, 3⅜c. 50-lb. bxs: Loose Muscateis, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached, 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

Walnuts soft shell .....12½
Hard shell .....6@8½
Ne Plus Ultra .....12¾@13¼
Almonds '09 N P U .....12¾@13¼
Almonds '09 nonp .....14½
Almonds '09 I X L .....13½@14
Pecans .....15@17
Chestnuts .....2@10
Peanuts .....5@6
Pine nuts .....22½@25

### Beans Dried.

Limas .....4.15@4.25
Pink .....3.05@3.15
Small white .....7.50
Large white .....3.25@3.50
Black eyes .....3.50@3.65
Red kidneys .....3.50@3.75
Garvanzas .....3.00@3.50
Bayo .....5.00
Horse Beans .....2.00@2.10
Cranberry .....4.25@4.50

### Hops.

Hops 1909 crop .....18@21
Hops 1908 crop .....11@15
Old .....5@8

### Honey.

White comb .....14@15
Light Amber .....10@12
Extracted W W .....7½
Extracted light amber .....6½@7
Beeswax per lb .....25@29

### Hay.

Scott, Magner & Miller say

Arivals of hay for the week have been 4500 tons. This is an increase of about 10 per cent over last week's arrivals. Our market this week has been badly interfered with; Monday having been a legal holiday on account of its being Labor Day, and Thursday being another holiday on account of Admission Day, have interrupted the week's business and broken it to such an extent that it has rather demoralized the conditions of the market for the week.

Present conditions show plainly that choice varieties of hay are rapidly being cleared from the fields, and that this class of hay will command a comparatively better figure than medium and poorer varieties until the fields are cleared. There are extensive holdings of the poorer varieties of hay in many parts of the country tributary to our markets which are endeavoring to find sale here during this month, and which fact, being well understoond, is a standing menace to the stability of the present market.

Alfalfa hay continues to arrive freely, and the feeling on this article is a little weaker than it has been at any time this season. No. 2, or any off-grade alfalfa is slow to dispose of, even at comparatively low figures.

This week's quotations are:

Choice wheat hay .....17.50@18.50
No 1 wheat or wheat & oat 16.00@17.00
No 2 wheat or wheat & oat 13.50@15.00
Choice tame oat .....16.00@17.00
Other tame oat .....12.00@14.00
New crop wild .....11.00@14.00
Stock hay .....8.00@9.00
Alfalfa .....10.00@13.50
Straw .....55@65

### Grain.

Wheat No. 1 .....1.70@1.75
Barley .....1.30@1.40
Oats white .....1.70@1.75
Oats gray .....1.67½@1.72½
Rye new crop .....1.70@1.75
Corn Egyptain .....1.60@1.65
Cal sm round .....1.80@1.82½
Alfalfa seed, Cal. 16@18
Mustard brown .....3¾@4½
Millet .....2½@3
Flaxseed .....4
Broom corn seed per ton .....23.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton .....39.00@40.00
Cracked corn per ton .....40.00@41.00
Rolled barley per ton .....30.00@31.00
Rolled oats per ton .....38.00@41.00
Rolled oats per ton .....40.00@41.00
Oil cake per ton .....38.50@40.00
Cocoanut cake per ton .....25.00
Middlings .....36.00@37.50
Mixed feed per ton .....25.00@30.00
Shorts .....31.50@33.00

## Citrus Market

LOS ANGELES, Sept. 15, 1909.

It cannot be said that there is any material advancement in the orange market but the general tone is stronger and the six or seven hundred cars yet to go forward will probably command prices satisfactory to the growers. These will largely be cleaned up within the next four weeks though there may be a few cars held for experimental shipment later. These may go in competition with the earliest colored navels. The fruit as a rule is of good quality and the market is receiving practically all of it satisfactorily.

Lemons are being taken up as fast as offered. For a time dealers were a little slow in buying owing to the expectation of a lower market, but the shortage of forcigns and the lessening of the shipment of the lower grades is giving a much firmer tone to the market.

**SHIPMENTS.**

Shipments of citrus fruits to date this season total 36,593 cars. Of this 30, 644 were oranges and 5,949 lemons. To same date last season there were 26,631 cars of citrus fruit, of which 22,141 were oranges and 4,490 lemons.

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NEW YORK, Sept. 10.—Nine cars of oranges sold. Market about steady. Raining.

| VALENCIAS— | Avg. |
|---|---|
| Carmencita, S. T. Ex. | 3.30 |
| Colombo, R. T. Ex. | 2.90 |
| Blue C., Covina Ex. | 2.55 |
| Cougar, Covina Ex. | 2.20 |
| Red Shield, A. C. G., Ex. | 2.65 |
| Green Crown, A. C. G., Ex. | 2.45 |
| Searchlight, S. S. Ex. | 2.70 |
| Sunset, S. S. Ex. | 2.20 |
| Titus Ranch, S. Marina G. P. A. | 3.00 |
| El Torcador, S. Marino G. P. A. | 2.15 |
| Dos Palmos, San Marino G. P. A. | 2.50 |
| Old Mission, Chapman | 5.25 |
| Golden Eagle, Chapman | 3.05 |
| Lighthouse | 1.40 |
| National | 2.55 |
| Dulce, Harper Fruit Co. | 1.70 |

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CLEVELAND, Sept. 10. — Market steady on Valencias. Prices low on lemons, account quality and condition. Warm. One car of Valencias, one car of mixed and one car lemons sold:

| VALENCIAS— | Avg. |
|---|---|
| Planet, S. S. Orange | 2.60 |
| Golden Scepter, Rialto O. Co. | 2.30 |
| Searchlight, S. S. Orange | 2.25 |

Redskin, Rialto O. Co. .....1.90

LEMONS— Avg.
Golden Scepter, Rialto O. Co., ....1.30
Pet, S. A. Ex. .....2.35

BOSTON, Sept. 10.—Cool, cloudy. Market very strong; two cars sold.

VALENCIAS— Avg.
Rey, S. T. Fernando .....3.30
Carmencita, S. T., Fullerton .....3.30
Tunnel, S. T., Fernando .....2.65
Colombo, S. T., Fullerton .....2.95

PHILADELPHIA, Sept. 10.—Four cars Valencias sold.

VALENCIAS— Avg.
Don Quixote, S. T., E. Alhambra..2.40
Greyhound, S. A. Ex.....2.55
Don Quixote, S. T., E. Alhambra..2.35
Palm Tree, A. H. Arlington .....2.10
Alhambra, S. T., E. Alhambra ....2.55

PITTSBURG, Sept. 10.—Cool. Two cars sold. Market unchanged for both lemons and Valencias.

VALENCIAS— Avg.
Orchard Run, S. A. Ex. .....2.40
Mountain Crest, S. A. Ex. .....2.25

LEMONS— Avg.
Greyhound, S. A. Ex. .....1.55
Duck, S. A. Ex. .....1.20

ST. LOUIS, Sept. 10.—Warm. Market is weak on small sizes. Two cars sold.

LEMONS— Avg.
Coyote, O. K. Ex. .....1.35
Palm True, A. H., Arlington .....1.70
Squirrel, A. H., Arlington .....2.40

NEW YORK, Sept. 13.—Fourteen cars oranges sold. Market steady. Weather cloudy; favorable.

VALENCIAS— Avg.
Swastika, L. V. W. Brown .....2.85
Pointer, A.-C.-G. Exchange .....3.30
Majestic, C. S. Spencer .....2.55
Standard ..... ..... .....1.90
Dos Palmos, San Marino G. P. A..2.60
El Toreador, San Marino G. P. A...2.05
Dos Palmos, San Marino G. P. A...2.65
El Toreador, San Marino G. P. A..2.05
Dos Palmos, San Marino G. P. A. ..2.55
El Toreador, San Marino G. P. A...1.90
Victoria, A. H. Exchange .....2.70
Alhambra, Semi-Tropic Exchange.2.40
Don Quixote, Semi-Tropic Ex.....1.90
Searchlight, Sunset Exchange ....2.20
I X L, Benchley Fruit Co. .....5.00
Premium, Benchley Fruit Co. .....3.60
Superior, Benchley Fruit .....2.90
Old Mission, Chapman .....5.50
Golden Eagle, Chapman .....2.90
Albion, T. Strain .....2.95
Cambria, T. Strain .....1.90
Purity, Tustin Packing Co. .....2.60
Old Oak, Tustin Packing Co. ....2.30
Lucky, Tustin Packing Co. .....2.00
Orchard, National Orange Co. .....3.25
Standard, National Orange Co. ....2.35
GRAPEFRUIT—Orchard, half boxes, $1.85; Cerrito, $2.30; Plain Ends, $1.90.

BOSTON, Sept. 13.—Three cars sold. Weather favorable. Market is very strong.

VALENCIAS— Avg.
Rey, Semi-Tropic Ex., Fernando..3.30
Butterfly, Covina Exchange .....3.25
Highgrove, Riverside Ex., Highg..2.45
Tunnel, Semi-Tropic Ex., Fernando 2.90
Sugarloaf, Riverside Ex., Highg...3.05

CINCINNATI, Sept. 13.—Warm. Market is very strong. One car Valencias and one car lemons sold.

LEMONS— Avg.
Bridal Veil ..... ...3.35
Loma, Limoneira Co. .....3.05
White Cross, Limoneira Co. .....3.15

VALENCIAS Avg.
Yankee Doodle, A. F. Highgrove .2.65

PITTSBURG, Sept. 13.—Market firm on good stock Valencias and lemons. Warm. Three cars sold.

VALENCIAS— Avg.
Transcontinental, Sunset Ex., El Mod ..... ..... .....2.55
Alhambra, Semi-Tropic Ex., Alhambra ..... ..... .....2.20
Goldfinch, Sunset Ex., El Modena..2.25
Pico, Semi-Tropic, Whittier .....2.00

LEMONS— Avg.
Pico, Semi-Tropic, Whittier .....1.95

CLEVELAND, Sept. 13.—One car Valencias and one car lemons sold. Market higher on Valencias, firm on good stock lemons. Warm.

VALENCIAS— Avg.
Gavilan, Riverside Ex., Riverside..3.10
Pride of California, Riv., Ex., Riv..2.30

LEMONS— Avg.
Festival; Semi-Tropic Ex., S. Bar.2.45
Blodina, Semi-Tropic Ex., S. Bar.1.30

PHILADELPHIA, Sept. 13.—Four cars Valencias and one car lemons sold.

VALENCIAS— Avg.
Stag, A.-C.G. Ex., Glendora .....3.80
Pointer, A.-C.-G. Ex., Glendora ..2.95
Braeside, Riverside Ex., Riverside.2.15
Searchlight, Sunset Ex., Orange...2.25
Aurora, E. Peycke Co. ... .....3.10

LEMONS— Avg.
Bridal Veil, Limoneira Co. .....2.90
White Cross, Limoneira Co. .....2.15

ST. LOUIS, Sept. 13.—Hot. Market is weak on lemons. Three cars sold.

LEMONS— Avg.
Coyote, O. K. Exchange .....1.45
Tunnel, Semi-Tropic Ex., Fernando.1.70
Blue Jay, O. K. Exchange ..... .95
Urchin, Semi-Tropic Ex., Fernando.1.55

VALENCIAS— Avg.
Rey, Semi-Tropic Ex., Fernando..2.90
Braeside, Riverside Ex., Riverside.2.55
Pride of California, Riv. Ex., Riv...2.60
Tunnel, Semi-Tropic Ex., Fernando.1.90
Foothill, Riverside Ex., Riverside..1.85

## SUMMER CARE OF THE FLOCK.

(Continued from Page 279.)

best way to mix the mash is to pour boiling water on the meal to make a thin mush, and then stir in the other ingredients. Feed while hot, or as soon after mixing as convenient, giving all they will eat up clean and quick.

At noon a quart or a little less of wheat to 25 hens and about 5 p.m. two quarts of cracked corn, or in extreme hot weather partly or wholly wheat. All grain fed is scattered broadcast over the grass in the yards, so that the hens get considerable exercise picking and scratching for it. This year we are feeding in litter indoors, so as to give the grass a good start by keeping the fowls off at least a part of the time, something not possible when they are fed in the yards.

On extremely hot days we feed the mash at noon, giving grain in litter in the morning, so as not to compel the fowls to work outdoors in the warmest part of the day. When feeding the mash at noon, we feed it in smaller quantities than when it was given at the usual time.

Up to this point I have said nothing about the general care of the flock. The most important thing to look after here is to see that the fowls have an airy, well-ventilated place to roost at night and a shady place out of doors in which they will spend the warmest hours of the day. Every window in the poultry house that can possibly be removed should be taken out and all doors opened as much as possible. For shade, fruit trees are probably the best, but any sort of shelter, provided it fulfills the requirements, can be used instead.

In warm weather lice multiply rapidly if given only half a chance. It pays to be on the watch for these pests. Unless the fowls have been very much neglected, elaborate precautions are not necessary. It is well to kerosene the roosts once a month or oftener. Having done this and provided a suitable place in which the hens can dust themselves, it will be found, I think, that they will keep themselves reasonably free from lice.

The above method of feeding and caring for the flock in summer I don't suppose contains any points differing materially from that of most successful poultrymen. With us it has proved satisfactory, giving us a good egg yield throughout the summer, and our hens undergoing this treatment have laid unusually well in the fall and winter as well. It is our ardent wish that some reader may be benefited by a careful perusal of this article.—Commercial Poultry for July.


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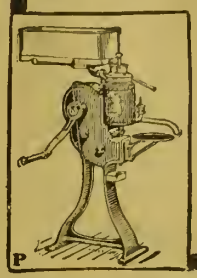

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## Business Notes

### HUMUS MAKER.

A problem which causes some little expense and perplexity is that of the disposal of prunings and clippings of orchard and vineyard. For handling vineyard prunings a burner on runners has been used, but it has been objected to by very many. Of course the ideal way would be to return all the elements to the soil instead of going to the expense of hauling the prunings out of the orchard and burning on the roadside or where absolute loss is the result. Many growers have had a theory that if the prunings could be returned bodily to the soil in such a form that they would in time decay, it would help to restore its fertility. Now it appears that a machine has been invented to perform this service and is being manufactured by the Arnott Company of Los Angeles.

This machine is mounted on trucks, together with a small gasoline engine which propels a series of cutters which reduce the brush and prunings to such a size that as they are cast upon the ground and plowed under, they soon decay. Of course it is presumed that the wood which is large enough for fuel has been cut from the brush, but we have seen prunings an inch and a half in diameter cut up readily into small bits by this machine. We do not know if any definite figures are at hand, but it looks to us as if this machine would reduce prunings to this small size and dispose of them at a cost but little, if any, greater, than that of hauling out and wasting. If such is the case we believe the machine will be of great value. Those who are interested may secure additional information by writing to the Arnott Co., 112-118 South Los Angeles St., Los Angeles.

### FEIJOA SELLOWIANA.

We are informed that Coolidge's Flower and Plant House, 388 East Colorado St., Pasadena, has several thousand fine plants of the feijoa sellowiana. This plant has caused much interest among readers of the Cultivator since the reprint of the recent article written by Mr. Collidge for the Pacific Garden. Anyone wishing these plants should write to Mr. Coolidge.

### GRAIN SMUTS.

A dangerous parasite of many of the cereal plants is the fungus that produces in the grain or head what is known as smut. There are several well-known kinds of smut, each of which is caused by a distinct species of the fungus.

The greatest loss from smuts in this country is from the stinking smut of wheat and the loose smut of oats. A considerable loss is also due to the loose smuts of barley and wheat, which are more difficult to control and prevent They are widely distributed, and though they occur usually in small quantities the damage in the aggregate is large. They often are entirely unnoticed on account of their earliness and the absence of any conspicuous sign of them at harvest time.

The stinking smut of wheat transforms only the kernels into smut balls which do not break until the wheat is thrashed and often remain intact in the thrashed grain. The loose smuts of barley, on the other hand, early discharge their spores, which are blown off by the wind as soon as the smutted head comes out of the leaf sheath; they infect the plant in the flowering stage and enter the embryo inside the ovary before the latter ripens into seed. An infected seed develops a smutted plant the following year.

The most successful method thus far found for preventing these smuts is a hotwater treatment of the seed. This treatment is described in Bureau of Plant Industry Bulletin 152, entitled "The Loose Smuts of Barley and Wheat," recently issued by the U. S. Department of Agriculture. The bulletin is a report of recent researches into the life histories of these smuts and the determination of methods for their prevention, and is intended for seed growers and scientific farmers.

There are 3000 hop pickers busy near Healdsburg, Sonoma county.


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May be arranged so that you may travel by way of

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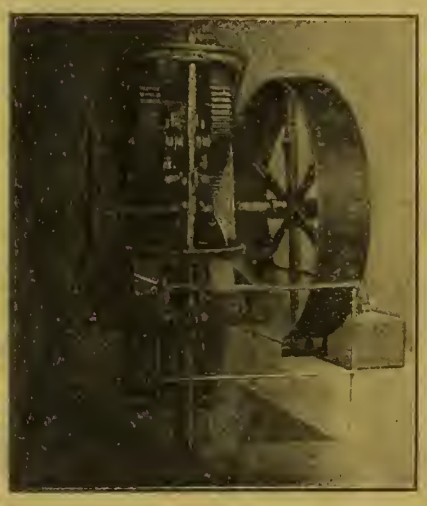

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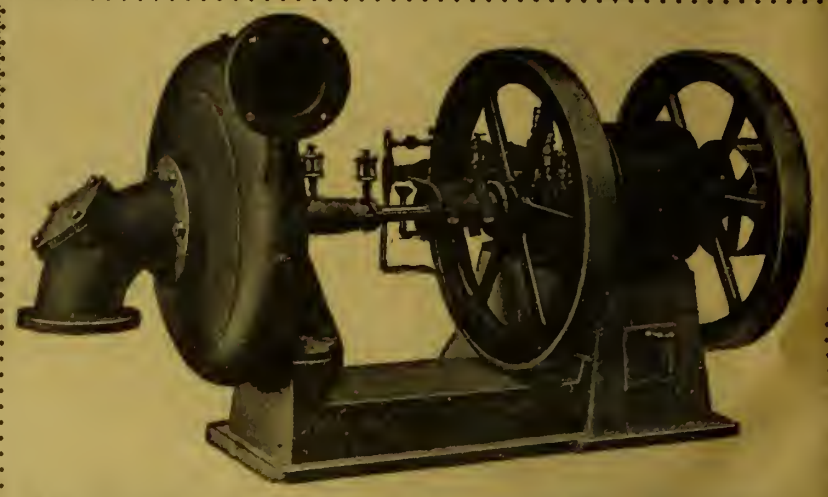

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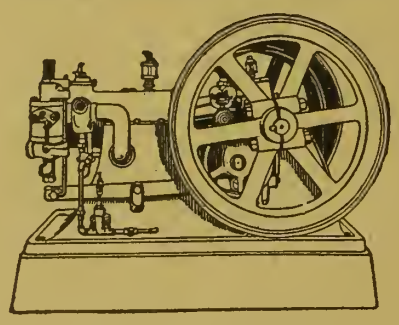

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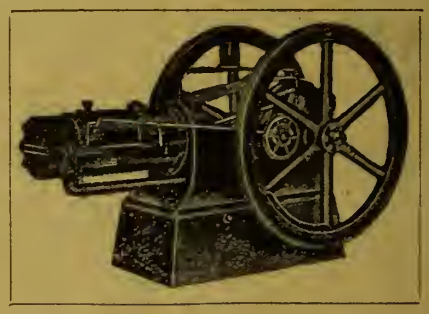

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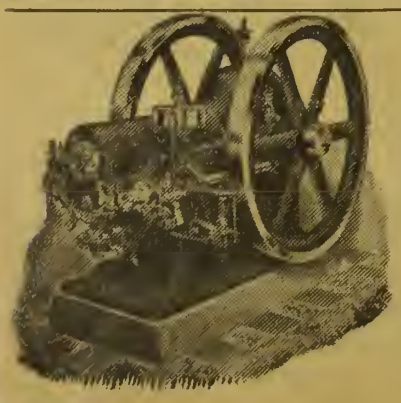

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An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles September 23, 1909 San Francisco


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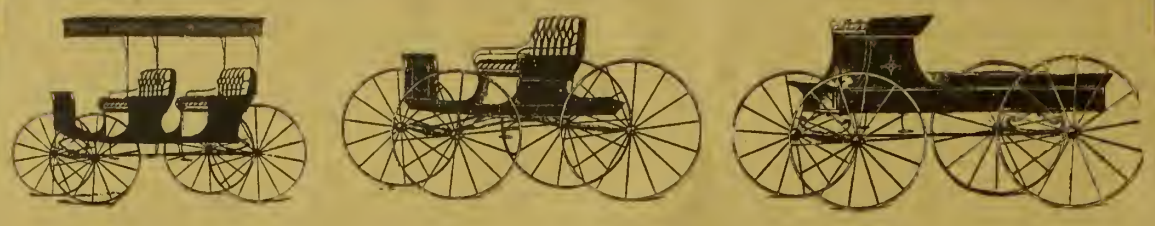

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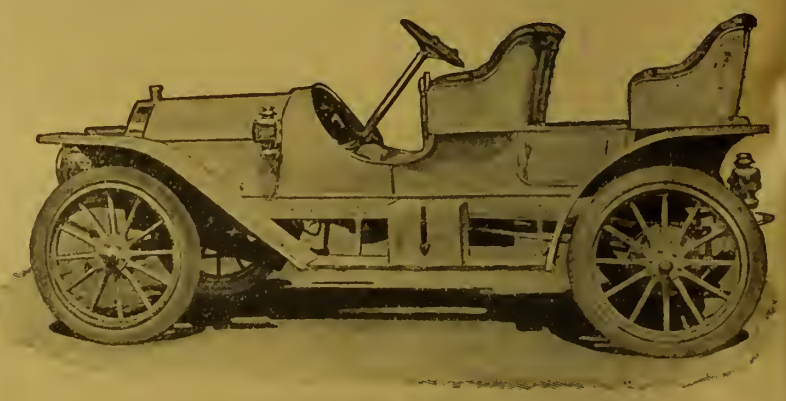

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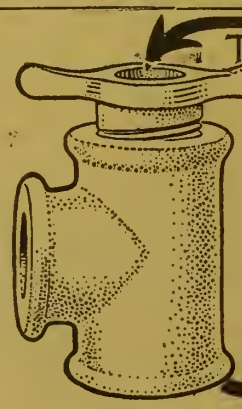

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# California Cultivator

Vol. XXXIII—No. 13 Los Angeles, California, Thursday, September 23, 1909 Subscription $1 a Year

# Why Newcomers are Dissatisfied with California

## A Few Observations by Bee Josephine O'Mealey, of Anderson, who is Not a Tenderfoot, of the Occasional Disappointments of the Tenderfoot who Engages in Agricultural Pursuits in California

TO begin with, not all are: a large per cent of the thousands who flock to the state every year would not "go back East," i. e., from Colorado eastward, to reside anywhere but in jail, and not willingly there. But the fact remains that there is still a large army of "knockers."

**First that Large Class of People who Always wish Themselves Where They are Not.**

That mistaken class, who imagine they can claim that superiority of birth, breeding and education, which fate has denied them, by the very tiresome habit of criticising everything with which they are brought in contact. You remember the cousin for whom Josiah Allen's wife bought the shawl—"black and white, even check, two and two. Two threads of black and two threads of white for I counted them. She took it, looked kinder disappointed and said, 'I'd a liked it a heap better if the black was where the white is' an' the white where the black is,' an' there it was even check."

It is not unusual to find people who have lived in twenty states, and, we may be sure growled endlessly in all of them, here at last at the outer wall of the United States sighing for the things they despised, and seeing no merit in the good things surrounding them. For them there is no cure, they were born so, and we can only wish them a happier disposition in their next reincarnation.

**Second, The Absurdly Over Drawn and Absolutely Criminal Statements Made by Some Real Estate and Immigration Agents.**

Words are curious things; a statement may be absolutely true, and yet give a wholly false impression, e. g.: In a well written and beautifully illustrated brochure setting forth the advantages of a certain section, occurs this sentence. "A cannery was established by the inhabitants some years ago." Which is very true—but it is also true that the cannery project broke up in a row, or something very like it, during the first season, and is, after several years, still indebted to most of the members who are fairly certain that they will always have something coming to them.

Looking over some old letters which came to me before my immigation to the State, I find the statement: "The grass is dry and brown during July and August, save for a few feet each side of the irrigating ditches..

Three summers have shown me conclusively that the grass is dry and brown, not only during those two months, but also the two months before and the two months following as well.

Special stress has been laid on the great healthfulness of this State, the absolute freedom from sunstroke, summer complaint, throat and lung trouble and those other unpleasant ailments which relieve the monotony of the year in the majority of Eastern homes, but the stranger is not told that there is something here which keeps one from being too sure of perpetual existence, and that is malaria. A stranger came to our place the other day who has just purchased a home near us. After expressing his great satisfaction with the prospects he added—"And then for another thing, they tell me there is Malaria in some parts of the state, but none was ever known here,"—and at the very time there were not a half dozen families in the Valley entirely free from it. Some people never have it, and some become immune to it, but every family has enough experience with it to spoil ready-made theories.

The unadorned truth about California is good enough for any reasonable being, but when all these glowing unrealities are held up so persistently before the home-seeker, he feels "jobbed" and "done" and consequently too grouchy to appreciate the good things he actually finds. Much of the printed matter which is disseminated is postively criminal in its half-truths and misleading statments, and I firmly believe the injudicious use of coloring matter in the pictures painted of this state the most potent cause of dissatisfaction.

**Third, Inability to Comprehend Conditions and Unwillingness to Adapt to New Conditions and Surroundings.**

The farmer from east of the Rockies must begin by unlearning the wisdom of his fathers. He must grasp the fact that a ditch is to carry water onto the land; not drain it off; that the market demands a rigid survival of the fittest, and that the fruit tree overloaded to the limit, and beyond, supported by props and stays and braces —instead of being an object of which to be proud —is, rather an evidence of ignorance, indolence or slovenliness. He must learn that the green fruit picked off in thinning is not wasted, but saved.

Leveling the Land in Imperial Valley.

The stranger comes to this golden land full of high hopes and aspirations for a speedy fortune, but with no knowledge whatever to assist him; he does not understand that those wet depressions which at home he would run a string of tile through and convert into the choicest part of the farm, are "hog-wallows" and if they have any value it has not yet been learned.

He does not realize that the warm, sunny, Southern slopes which the fruit-grower of the lake region prizes so highly because of their ability to grow bountiful crops of choice early fruit, will burn the life out of the trees and vines, and demand more and yet more water to sustain feeble existence.

The grain belt farmer plows and sows the seed; and thus ends his duties and responsibilities until time to harvest, and he does not readily grasp the fact that the California fruit rancher can work every day of the year, and finds something every day which needs to be done immediately.

The work is not hard. The fruit-rancher who complains of being over-worked, should change labor for one year with the general farmer of the Middle East, but before he does, he should have an iron-clad agreement about changing back again at the end of the year.

But while it is not laborious work, it is a ceaseless choring around, the trifles which go to make up the perfection so few of us attain.

The stranger cannot realize readily the great variation in a few miles. From Detroit to Cincinnati is 272 miles and the only crop difference is that of a few days in maturity: Illinois will produce the same crops as Massachusetts, the only difference being in the greater depth and fertility of the newer soil, but here in our own Shasta County may be found oranges and lemons and dates growing luxuriantly and only a very few miles away, eternal snow.

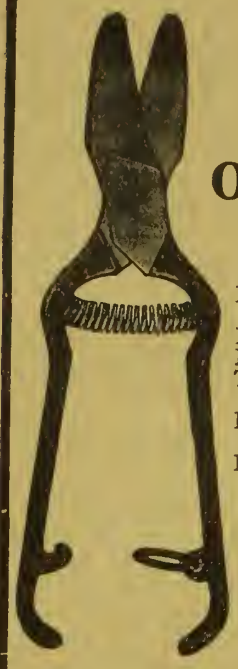
I have yet to see a home-grown cabbage produced in this particular valley large as a pint bowl, yet only a few miles away are grown 50 pound heads which would make a Wisconsin kraut-maker sit up and take notice. We have used every effort and device known to us to make onions grow large enough to smell, and have failed to get anything except microscopic subjects, but only five miles away they grow large and fragrant. The boundary between Anderson Valley and Happy Valley is nothing more tangible than a blazed tree, yet the former is famous for the quantity and quality of its prunes, but our prune orchard is more valuable as a wood pile than it ever was as a fruit producer.

**Fourth, The Society.**

All imaginable objections are urged on this score; one woman said to me emphatically, "I don't like California, there is no Sunday and the ladies swear," and it was useless to assure her the calendars were the same here as elsewhere, and good breeding does not change with climate.

Another person is seeking a location "where the people are not so perniciously pious." A letter received last week says, "the trouble is, California is a Godless country." A caller said a few days ago: "If some of these churches were dynamited, and the Pharisees who run them strung up, California could be made a fine place to live." So you see "one man's meat and another's poison." Side by side they exist and what pleases one human being is a thorn in the flesh of another.

California is, has been, and will be, a meeting place of cranks and faddists, but the cranks are the ones who make things go around, and you remember what the old Quakeress said to her neighbor: "All the world is queer but thee and me,—and sometimes of late I have thought thee was getting just a mite peculiar."



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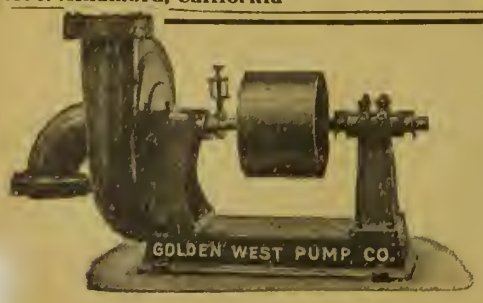


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# Citrus and Sub-Tropical Fruits

### SELECTING AND BREEDING BACTERIA.

REGARDING production of bacteria compound for inoculating seed of legumes or soil in which they are to be planted, we quote the following from an article by an eastern writer:

When we realize that man can raise plants many of which could be placed on the head of a pin, and that if we examine a bit of soil from the garden under the microscope, we find hundreds of different kinds so similar in general appearance as to deceive the eye of anyone unless accustomed by long training and observation to observe the minute differences, we appreciate the difficulty of the task of

COLONIES OF BACTERIA ON SOY BEAN ROOTS

discovering the characteristics and use of each kind. Were it not for the fact that men have worked from the other end of the problem, by having their attention called to certain peculiar effects in plants not easily explained and in looking for the cause made the discovery that these effects were caused by bacteria, the whole subject would probably be unknown to the word today. Knowing then that the colonies of the nitrogen-gathering bacteria grow on the roots of certain plants, the next problem was to find out what they lived on and why nature placed them on the plant roots.

The discovery that these little plants lived on nitrogen which they got from the air, and that they in turn gave off nitrates which the larger plants could take up, and which they must have in order to live, explained fully why they were there. Realizing their importance, scientists said, "Why, if we can only discover the way to feed and raise these nitrogen-gathering bacteria by artificial means, and then supply them to the farmer to use on his plants, instead of trusting to the haphazard chance that they might be in the soil he wished to plant, we will have something that would in a large measure do away with expensive fertilizers and be of incalculable benefit to the farmer."

Knowing that bacteria needed nitrogen to live on, some German scientists prepared a food containing nitrogen in the form of a nitrate, placed the bacteria in this material and with every good intention announced to the world the discovery of this wonderful method of fertilization. Have you ever kept bees? Whether you have or have not, you probably know how foolish it would be to place them in a hive full of honey and expect the bees to go and hunt for more. That is exactly what happened to the bacteria. Having an ample supply of nitrogen in a form much easier to obtain than the nitrogen in the air, they all became consumers instead of producers, and by the time they were placed on the larger plants, they had lost the power to do the work for which they were intended, and the agricultural world said, "Another Fake."

Undaunted by failure, other scientists discovered that the bacteria could be dried in cotton, kept for a long period of time in a dormant state, and then by placing them in a liquid containing nutrients, bring them to an active condition, ready to use on the plants, but although in occasional cases the bacteria survived, the farmers were in a majority of cases disappointed, and said. "Still Another Fake."

Dr. Earp-Thomas held the theory that to keep the bacteria alive, they should be placed in a food which did not contain nitrogen but did contain the other foods which they obtain

BACTERIA MADE THIS DIFFERENCE

when growing naturally on the roots of legumes, such as peas, beans, clover, etc. Many years of study and experimental work followed, with heart-breaking disappointments, but were finally crowned with complete success.

As with every great invention, what often seems to be a final discovery proves only to be the stepping stone for greater achievement, so in this case the discovery of the means of raising and shipping the bacteria lead to the discovery that some bacteria seemed to be much more active than others. The problem of selecting the most active specimens to breed from seemed almost insurmountable, as the only way to prove their activity is to watch their growth on the roots of a plant, and it would be manifestly impossible to keep plants growing in earth and pull them up every day to examine the roots. The discovery of

a transparent jelly in which the legume plants would grow when treated with the bacteria made what had seemed at first impossible entirely feasible.

Securing specimens of bacteria from plants growing in the open, they are placed on the seeds of the same kind of plant on the jelly in a tube, and in a short time the seed germinates and roots in the jelly. Now what happens? The bacteria have also been rapidly increasing in numbers, and as the plant roots grow, the most active, or, in other words, the ones with the greatest ability to enter the roots and to take nitrogen from the air, form the first colony or nodule on the roots of the plant.

Specimens are secured from this colony, and another seed is treated and again planted in another tube of jelly.

Now, by repeating this performance a sufficient number of times, you can

BREEDING BACTERIA

see that specimens of great value are secured. All this work is greatly handicapped by the danger of contamination from any one of thousands of kinds of bacteria that fill the air, and the greatest care has to be taken to prevent any of these from getting in and spoiling the work of many months.

## OLIVES.

I watch with interest every new development of science as we pass on in the grand panorama—human, animal, and vegetable life. As the season for caring for olives is near at hand, I wish to say to all whom it may concern that there is a better way of curing olives than the one now in vogue throughout the country. It is this: let the olives become perfectly ripe on the trees, then pick them carefully and dry them thoroughly in the sun or otherwise as you would prunes. The natural bitter of the olives to which some object, evaporates almost entirely during the process of drying and the natural richness and flavor of the fruit are both left in the fruit instead of being wasted in the slow process of curing. Prepared in this way, I would rather have one pint of olives than a gallon put up in the ordinary way, and those who have tried them agree with me.

To prepare them for table use, put as many as you wish to serve for a few times, in a fruit jar and cover with tepid water for a few minutes. Then pour off the water, leaving about a half inch in the bottom of the jar. Screw on the top so that the moisture will not escape. In a

BACTERIA MADE A DIFFERENCE OF 200 PER CENT IN THIS CROP OF SOY BEANS

few hours, or next day, they will be ready to serve on the table, and if the weather be not very warm, they will keep for several days.

I hope that some of your readers will try this mode of curing one of our best fruits. A friend of mine told me of the process, and gave me some of the olives. "We do not all know it all yet." The taste of the American people needs cultivation in many things, including the use and preservation of the olive.—Mrs. Carrie Williams, San Diego.

The plan of drying olives has been treated of in the Cultivator before, but the moistening to make them more palatable we believe has not been touched upon and it may prove a valuable suggestion.

## JUDGES ARE NAMED.

Prof. B. C. Buffum of the Wyoming Plant & Seed Breeding Co., Worland Wyo.; Prof. Hans Mendelssohn of the Billings Sugar Co., and Rev. J. G. Clark of Fromberg, Montana, noted as a horticulturist, have been selected to act as judges of the International Dry Farming Exposition which will be held at Billings, Montana, October 25-29, in connection with the Fourth Dry Farming Congress, October 26-28.

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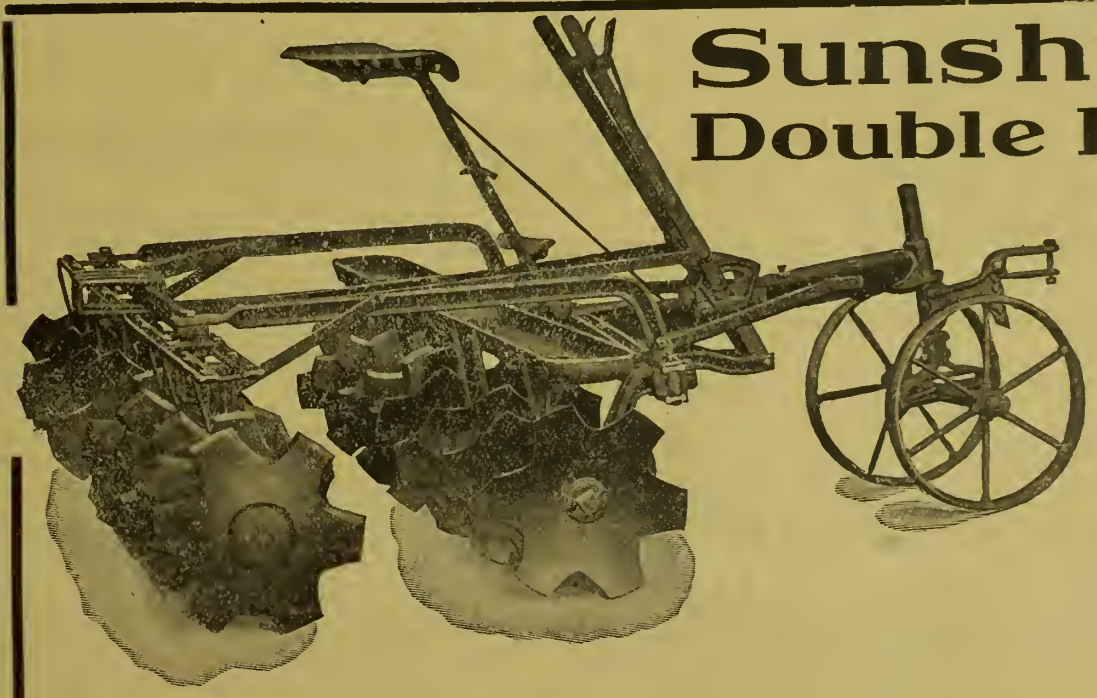
**Sunshine Double Disc Harrow**



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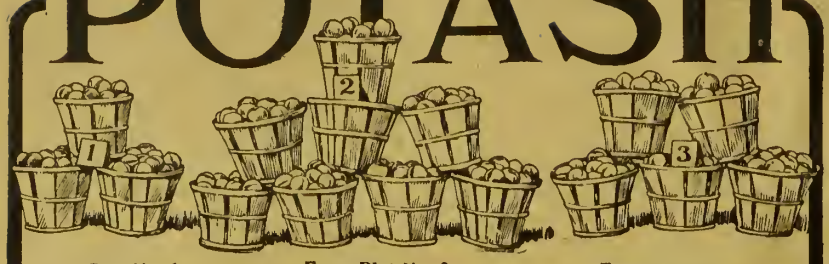
# POTASH

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Rate, 3¾ tons per Acre.

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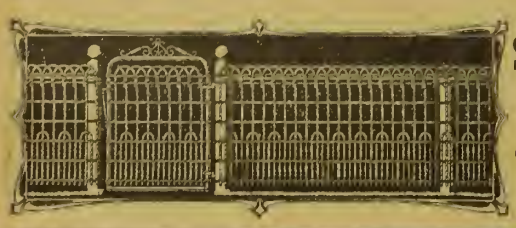

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# Deciduous Fruit Culture

### THE ROUND-HEADED APPLE BORER.

YOUNG apple trees are often attacked at the base and seriously injured by borers. Even large trees are attacked, but do not become devitalized and show the effects of the work of the borer like the younger and smaller trees. Especially if the young orchard be isolated and surrounded by woodland is the attack liable to be severe.

Two kinds of borers are responsible for this kind of injury to trees, the roundheaded borer, belonging to the family Cerambycidae, and the flatheaded borer, which belongs to the family Buprestidae. The former is much more common and is the chief species attacking fruit trees. Neither species is confined to orchard trees, but lives in various native trees of the fields and woodlands, the roundheaded borer being especially fond of the wild thorn, mountain ash, shad bush and chokeberry, and the flatheaded species attacking many of the larger shade and forest trees.

The round-headed apple borer is found throughout the United States and Canada, at least east of the Rocky Mountains. The adult is a long horned beetle about three-fourths of an inch long, dark grey or brownish, with two straight white stripes or bands on the back running lengthwise of the body. These bands are not quite parallel, but join on the head and are farthest apart at the base of the wing covers, coming near together again at the apex. The antennae, legs and front of the head are white. The antennae are long and slender, as is characteristic with this family of beetles.

The eggs are yellow or pale brown, three times as long as broad and three times as broad as thick, and about one-eighth of an inch long. They are laid in incisions in the bark made by the ovipositor of the adult female, the eggs being placed lengthwise the trunk. The adults appear in June, July and August; the eggs are laid during these three months. The young borer tunnels just under the bark, working downward as far as possible before winter. Though inactive during the cold weather, it again begins operations in the spring, and burrows in the sapwood throughout the season, becoming about half-grown by the second winter. As it increases in size it does more and more damage to the tree because it is more voracious and active and makes larger tunnels through the wood. The next summer, when about three-fourths grown, it tunnels into the solid wood of the tree, and as it becomes full-grown works its way outward to the bark, making a circular hole. Remaining in the burrow unchanged through the winter, the larva transforms to a pupa in the spring and the beetle appears during the summer. About three years are therefore required for the complete transformations of this insect. Where several larvae are at work in the same tree they often girdle and kill it. The larva is white, with brown head and black jaws, and is about one inch long when full-grown. Usually the burrows are partially filled with particles of wood or castings from the excavations, and the pupating chamber is made of this material. Some of the castings are crowded or thrown out of the burrow, and form the principal evidence of the presence of the insect.

Many remedies have been tried but most orchardists prefer to watch their trees and dig out the borers with a knife when found. Sometimes carbon bisulphide can be injected into the burrow from an oil can and the opening stopped with clay, soap or wax, and the borer inside will be killed. External washes and other applications are of somewhat doubtful value, and the painting of the trunks is liable to cause great injury to the trees. Covering the base of the trunk with arsenate of lead may be of some value in keeping out borers, but this has not yet been thoroughly tested. It will adhere for a long time.—The Apple.

### CONTROLLING BLACK-ROT OF GRAPES.

In the eastern half of the United States black-rot has proven a serious drawback to grape culture. Humidity is favorable to this disease. More than twenty years ago spraying was introduced as a means of combating this and other fungous diseases of vines and fruit trees, and Bordeaux mixture has been the standard fungicide from the first.

As, during recent years, a good deal of discouragement among commercial grape growers has resulted from the spread of black-rot and their failure to control it satisfactorily, the United States Department of Agriculture about three years ago began a series of experiments to demonstrate the best methods of combating this disease. These experiments have been conducted in Pennsylvania, New Jersey, New York, and Michigan, and have extended over three seasons. The Department has just published a report on these experiments. (Bul. 155, Bureau of Plant Industry).

Several different fungicides were tried, but none was found to be as satisfactory as Bordeaux mixture. It was demonstrated, however, that a 4-3-50 mixture (4 pounds of bluestone, 3 pounds of lime, and 50 gallons of water) gives fully as good results as stronger mixtures. It was found to be unwise to use more lime than is absolutely necessary, as, when used to excess, it tends to hinder the action of the copper sulphate. It was also found that five sprayings will usually produce as good results as a greater number.

Among other mixtures tried, that known as the "neutral copper acetate" solution promises to be very satisfactory for the last application because of its nonstaining effect

On the whole the experiments have been quite successful. In 1907, where unsprayed grapes were a total loss, spraying reduced the loss to 28 per cent. The next season, when the rot was almost as bad on unsprayed vineyards, on the same sprayed plats the loss was reduced to less than 1 per cent. The good effect appears to be cumulative. The greatly increased spraying activity of growers, especially in Michigan, shows that these demonstrations have produced a good effect.

Germain SEED & PLANT CO. LOS ANGELES, CAL.

# Vetches

See issue of September 9th "Cultivator." Endorsed by all the leading Citrus and Deciduous fruit growers of Southern California as a

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### CARBON BISULPHIDE.

This is a highly volatile liquid, the vapors of which are heavier than air, very penetrating and deadly to the small forms of animal life. The strong fumes are dangerous to man. It is used against rodents, insects affecting underground parts of plants, such as woolly aphis, ants, and for destroying insects in stored grain, fruits and vegetables. In the case of root insects a small quantity may be poured into a hole made in the soil near the plant. This opening should then be closed with a ball of moist earth. A wet sack spread on the spot helps. The liquid should not come in contact with the roots or stems of the plant. Poured in on the stems around the collar it proves fatal even to sassafras sprouts. But the fumes, if not too long continued or excessively strong, are not injurious to the roots. The treatment for cuts is similar. The fumes are deadly to borers, affecting the collar or base of the stem of young peach trees, and the writer has used it repeatedly for the peach borer with the greatest satisfaction. With a spade or hoe a shallow funnel-shaped cavity is made in the soil around the base of the stem, a teaspoonful of the liquid is then poured upon the soil in the cavity in two or three spots, or a circle six inches from the stem. The loose soil is then quickly heaped up around the stem and patted down with the back of the spade. In twenty to thirty minutes the borers will be dead. As many as nine dead borers have been taken from a single stem in this length of time after treatment. No scraping of the trunk or other preparation is necessary. In very loose soil or for larger trees, double the amount of liquid should be used. This work should be done in early spring or fall. When the tree is free from borers further infestation should be guarded against by wrapping the base of the trunks with resined or oiled paper, tobacco leaves, etc., extending below the surface of the soil and some inches above, tying the paper around the stem lightly at the top. Borer tanglefoot, sticky grafting wax, to which is added a little castor oil and applied warm (castor oil and rosin melted together make a sticky compound), and white lead paint mixed with pure linseed oil, but containing no turpentine, have also been used. Such measures have to be repeated from year to year and should be examined from time to time. Stored grain, seeds and other products, fruits and vegetables, may be freed from insect pests by the use of this material. One pound of carbon bisulphide is sufficient for a thousand cubic feet, provided the bins or containers are tight. When a chamber is used for fumigation, care must be taken to have it tight around the sides and floors. The liquid should be placed in the upper part of the compartment. The fumigation should not be continued as a rule, for more than 24 hours, after which an hour's free ventilation should be given. This is sufficient for all odor to disappear. The operator should remember constantly that the fumes are very inflammable and explosive. Hence no lamp or fire should be about while using this fumigant.—Ex.

---

Low stout trees are better than tall slender ones.

---

Handle fruit as you would eggs.

### THE AGE OF TREES.

One of the marked changes now taking place in the field of practical horticulture is toward the use of young nursery trees in orchard planting. The time was, only a few years ago, when apple and pear trees were never planted at less than two years of age, while often they were taken from the nursery to the orchard at three, or even four or five years. This was the practice especially with pears. In recent years tree planters have come down pretty uniformly to the use of two-year-old trees of pear and apple. But there has been manifest for several years a distinct tendency to take even younger trees. Especially in the southern and western states, one-year-old trees have been frequently planted. And such plantings have been most common at the hands of large operators, in which circumstances the practice has been particularly significant. Hundreds of thousands of one-year-old apple trees have been planted out in the last five years.

Pear trees are also going out at an earlier age. In the south and west considerable quantities of Kieffer and Garber are planted; these varieties on account of their very strong growth in the nursery, are particularly adapted to planting at one year. But even such sorts as Bartlett and Seckel are now frequently planted at one year old, and this practice is being adopted to some extent in the northeastern states. Peach trees used occasionally to be planted at two years old, but are now almost universally set at one year. Still in the use of "June buds," tree planters are setting out many thousands of peach trees at an age considerably less than one year. A year or two ago when the frenzy for planting Elbertas was at its height, many thousands of dormant buds were planted in orchards. These trees are of an age represented only by zero.

Nurserymen tell us that the present demand for one-year trees for next spring's planting is unusually strong. This change of demand is clearly reflected in the curious fact that all large nurserymen are charging exactly the same prices for one-year-old trees as for two-year olds. As it costs from 20 to 35 per cent. more to produce the two-year-old tree, such a state of affairs requires some special explanation. There are substantial advantages in planting the younger trees. They show a smaller percentage of loss. They are easier to handle. They form much better heads, especially under modern systems of low heading and close pruning. We may fairly expect to see the fashion go forward still and one-year-old trees become more and more common. On the whole, this tendency represents an improvement, or a series of small improvements, in orchard practice.—The Apple.

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The prominent fruit growers of Ventura county held a meeting last week and determined to perfect an association of the orchardists for the protection and advancement of the industry. A committee consisting of Messrs. C. C. Teague, F. E. Barnard, E. S. Thacher, G. N. King and Thos. Bell was appointed to arrange details of the organization

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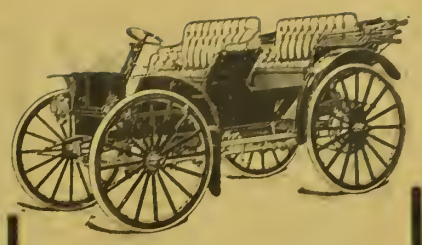
The Department of Agriculture has offered to supervise the building of a four mile road from Chico to the plant introduction gardens, providing the county supplies the material and labor.



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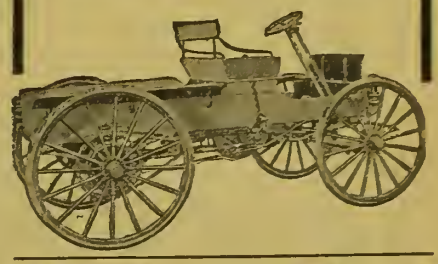

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# Live Stock and Dairy

Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

By Mrs. M. E. Sherman.

## MILK

THE Los Angeles Ordinance allows 20,000 as the bacterial count per cubic centimetre, while San Francisco limits the number to 10,000. The difference in climate makes it about even, for the cool air in San Francisco holds the milk at regular temperature. In the certified dairy, the cows must be turberculin-tested. In the original dairy in New Jersey the cows are tested twice a year. The milk from a cow that has garget or any ailment no matter how slight is not put into the certified milk can but goes into the ordinary bottled milk. This requires constant watchfulness on the part of the owner, for the milker will fail to note these trifles at times. The milk is not used within fourteen days of calving nor for six days after freshening The cows are carefully groomed and the udder and hind portion of the body moistened to prevent dust from falling into the milk. The milkers are required to put on clean white duck suits and the milk is drawn into covered pails. It is then run over a cooler and put into the bottles and iced. It must be delivered within eighteen hours. It was recommended that the milk should be run over a cooler but this is not in accord with later knowledge. The first few squirts of milk are often rejected and the remainder of the milk drawn in a different pail. This alone will greatly reduce the bacterial count.

### Prices.

At present in the larger cities the demand for certified milk is greater than the supply, for the producer does not feel that 15 cents a quart leaves as good a margin as ordinary milk. The greatest trouble and discouragement the dairyman meets in producing certified milk is from the readiness with which he is held up to public scorn if he fails to reach the mark. Publicity does not always tend to correct abuses but it does tend to keep the careful man out of the business. While I believe in exactness, still the same doctors that are harsh to the dairy man will tell of the successful operation performed when the patient dies—as though an operation was ever submitted to, except in hope of saving life. With the greatest care in the dairy sometimes the bacterial count will jump up, often by the careless handling of the sample in the laboratory. As long as the bacterial count includes all bacteria it is easy to raise the count by letting the milk grow warm, then the lactic acid bacteria will multiply very rapidly.

### Cost.

When Mrs. Judah years ago played the part of the nurse in Romeo and Juliet she used to turn and hold her hand out behind her back. The dairyman thinking of starting in the certified milk business asks at once if there is any back paying. Under the present plan there is none that is not a proper expense. The commission is usually the local medical society. The prices received are from one to three per cent more than for ordinary milk. This margin is too small to make many anxious to enter the field. The cost of veterinary inspection every two weeks is placed at ten dollars a month, tuberculin testing from 50 cents to $2.00 a head twice a year, bacterial test $2.00 a count twice a month, $1.25 a thousand for the certified labels, and $10.00 a month for chemist. Then in the milking string it requires an extra man to do the grooming for each hundred cows and $4.00 to $8.00 a month for washing the white duck suits for each milker. The milkers do not pay for this nor will they wash them. The Fairfield dairy of New Jersey milks 700 cows. The stables are specially built for making certified milk, and it is sold at an advance of 2 cents over the rest of the milk. No calves are raised and no butter made. Certified milk is then said to be milk made under the law and by specified ways of cleanliness. By law the fat in milk must not be below 3 per cent proteid and sugar 4 per cent as a minimun.

### Steamer Milk.

Now after certified milk became a market product human nature aspired still higher and then came steamer milk. This is even more carefully made. The cows are washed more thoroughly and groomed perfectly, then covered with a white duck sheet before any milk is drawn. The milkers wear in addition to their white duck suit white cotton gloves to absorb any moisture that may come on the hands. Cows are not put into the steamer milk string until they have been in milking six to eight weeks and then only until the third month of pregnancy. About a pint of the first milk from each teat is milked into a separate pail and set aside before the regular milk is drawn. The milk is carried directly from the milking barn to the ice room, bottled, sealed with a cap and paraffined, and then cooled thoroughly. The cooling in the jars protects it from further contamination. This milk keeps sweet for three weeks.—M. E. Sherman.

## THE USE OF CACTI TO SAVE STOCK.

After all that has been written concerning spineless cactus as a forage plant it would seem somewhat superfluous to call the attention of stockmen to the value of the cacti upon their ranges at this season of the year. But the mental step between spiny cacti and spineless ones seems to be a long one and one that few take readily.

In bulletin No. 74, Bureau of Plant Industry ("The Prickly Pear and Other Cacti as a Food for Stock," Dr. David Griffiths; U. S. Dept. Agri., Washington, D. C.) commencing on page 43 there is a long list of succinct statements relative to the possible uses of cacti, from which I quote the first, because of its present importance. "Prickly pear, although poor in nutritive quality, can be fed


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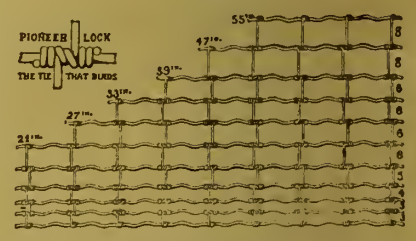


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**Thoroughbred Holstein Bulls and Heifers**
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to decided advantage under several conditions and for several purposes: (1) To save cattle during prolonged drought when other more nutritious food is scarce."

Now this statement applies to any kind of cactus that is big enough to furnish any quantity of forage, being especially true of the prickly pears and cane cacti. The truth of this statement is vouched for by many who have tried it.

This is by no means the only use for cacti, but at this season of the year, when all feed is dry and there is very little of it, when the water supply is poorest and stock, especially cattle on the range are dying in large numbers, it would seem to be a most important one.

This short article is written to call the attention of those stockmen, who have already availed themselves of the supply, and more especially those who are losing stock, to the fact that they probably have upon their ranges a forage which may be available to their stock by a little work.

Spineless cacti will not grow in the open range of New Mexico. In fact their thorns and spines together are one of the characters that make it possible for cacti of any kind to live on the open ranges. And even this defensive armor is insufficient to protect them from a number of enemies. But the spines do protect them from stock, and before they can be made into stock feed the spines must be destroyed.

Fortunately the spines burn readily, hence it is possible to singe them off without effecting the stems and so come at the forage.

Two ways of burning the spines have been shown to be practicable. One is to cut the stalks with a machete or a sharp spade and hold them in the blaze of a brush fire with a pitch fork The other is to singe them on the plants as they stand with a gasoline torch specially made for the work. This torch is made on the principle of an ordinary plumber's torch with a rather long pipe for the reservoir, and one that may be turned in different directions. Gasoline is a fuel and is used under pressure and mixed with air, so it is very essential that all joints be gas tight and be kept free of gasoline; otherwise serious explosions may occur.

The torch method is much the more rapid and less laborious. Experience has shown that it is well to have a good pressure in the tank and avoid using the torch in the wind as much as possible, since this materially increases the amount of singeing.

Considering the fact that we have a period of shortage of feed and water each year in the spring and early summer, and periodic recurrences of years that are drier than usual at that time, it would seem but a sensible thing for stockmen to encourage the growth of cacti upon those parts of their ranges where grass and better forage do not grow well; this to be done with the idea of preparing for the "lean year."

The easy way of planting cacti is to scatter the separate joints over the ground. They will take root without covering. The work may be done at any season of the year, though a larger per cent. of the joints will root during the rainy season. This statement applies to the lower and hotter southern end of the Territory.—E. O. Wooton, Bontanist New Mexico Exper. Sta.

**Do your cows milk hard? Send 50 cents for teat expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

## CHANGE IN REGISTRATION RULES.

At the recent annual meeting of the American Guernsey Breeders Club a change in the time allowed for entering animals was made. This is a very important step, a move which is believed to be of great advantage to both the register and the breeder.

If the birth report is filed the breeder can register at same rate applicable to registration under six months of age until the animal is three years old.

If the animal has not been registered before six months of age, or a birth report has not been filed, then the animal can only be registered upon the payment of a fee of $10 and getting the approval of the executive committee.

At first some might feel this was imposing hardships. Such is not the case. When fully understood the breeders have the advantage. Registration fees will in a way be lessened. By the filing of the birth report the breeder has three years instead of six months in which to register at the lesser rate.

It does put a heavier penalty on delayed registration. That was the intention. It is believed it is for the interests of the breeder as well as the register that animals should be recorded promptly. Much annoyance will be saved in the delay of certificates, because applications have had to be returned for correction or incomplete data, to say nothing of the complications usually arising from the sale of unregistered stock.

Breeders should register their calves before they are six months old.

Or, when they make record of calves dropped in their home records send a birth report to the office.

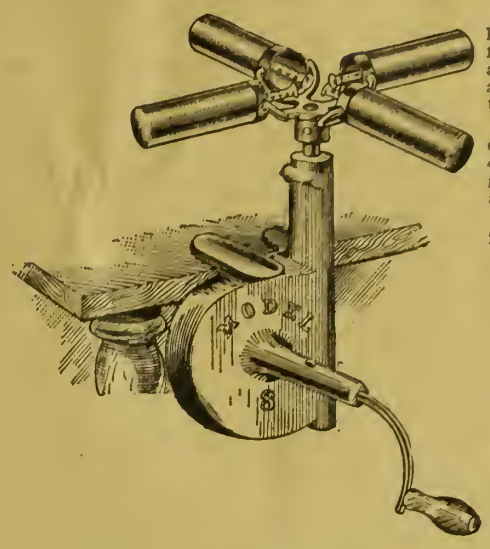
## SILVER TROPHY CUP.

A handsome Silver Loving Cup, beautifully engraved, embossed, burnished and gold lined, 14 inches in height and valued at $200 was received recently by Frank A. Welch, secretary of the Live Stock Committee at the A-Y-P Exposition, and placed on exhibition. The inscription upon the trophy is self-explaining, and reads as follows: "Presented by Joseph Benn and Sons Inc., Mohair Manufacturers, Greystone, Rhode Island, to the grower of the best Mohair in the competition at the Alaska - Yukon - Pacific Exposition, 1909."

The Nebraska Station has been experimenting with milking machines. It was found that most cows yield their milk as freely and fully when milked with a machine as when milked by hand, but with some individual cows the use of the machine is not entirely successful. Heifers accustomed to the machines from the first appear to do better than older cows which have been milked by hand.

At the recent meeting of the Delano Creamery Co. the following were elected officers: H. Hawley, president; Andrie Vieux, vice-president; H. Page Randall, secretary, and John J. Schlitz, treasurer.


# Improved Babcock Tester



Babcock Milk Tester, an extremely simple, light, compact and carefully designed apparatus, especially adapted for use in the dairy and also on account of its light weight to the Traveling Dairy Inspector.

The working parts are entirely enclosed in a handsome cast-iron case, and consist of but two cut gears, namely, bronze spiral gear and steel spindle with worm thread.

The Tester is fitted with swinging pockets and malleable iron head; it turns very easily without any vibration or jar and can be readily attached for operation to any table or bench. The bottles are perfectly horizontal when rotating.

| | wt. lbs. | |
|---|---|---|
| No. 1 2 bottle for milk, | 14 each | $5.00 |
| No. 2 4 bottle for milk, | 14 each | 6.00 |
| No. 3 2 bottle for milk, and cream | 14 each | 5.50 |
| No. 4 4 bottle for milk, and cream | 15 each | 7.00 |

Price includes full directions for making test, bottle of acid, test bottle brush, acid measure, pipette and test bottles.

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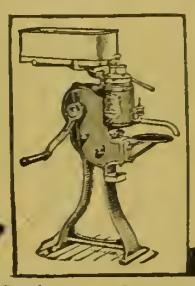
A request by postal card for United States Separator Catalogue No 30 and mentioning this paper, will bring you a beautiful hanger lithographed in colors.



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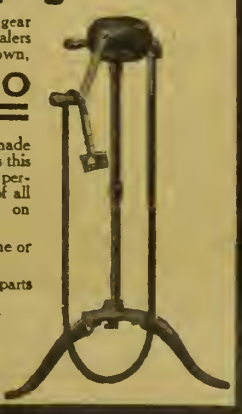

It turns easier, clips faster and lasts longer. If you have but one or two horses it will pay you to have this splendid machine.

The gears are all cut right out of the solid bar, and all wearing parts are file-hard. It will last a lifetime.

If your dealer hasn't it, write us direct. GET ONE NOW

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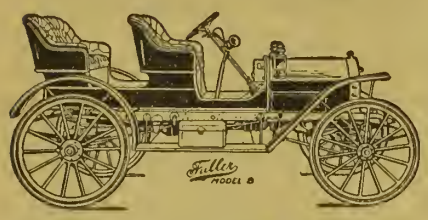

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Twelve varieties and ready about Oct. 1st. Blackberry, Loganberry, Mammoth Blackberry, Raspberry and Phenomenal Berry Plants. Ready about Dec. 15th. Burbank's Crimson Winter Rhubarb.

Send for price list.

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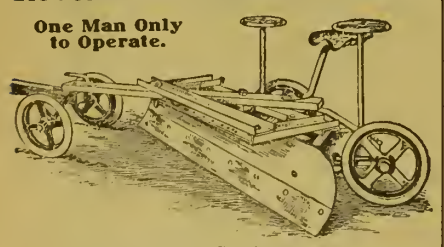

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**EUCALYPTUS TREES AND SEED**

**SUNSET HORTICULTURAL COMPANY**
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# Small Fruits and Vegetables

### NON-POISONOUS SPRAYS.

THERE are many plants on which the gardener or fruit growers feels an instinctive reluctance to apply Paris green, London purple, arsenate of lead or any active mineral poison.

For use on orchard trees these are, without question, the least expensive, most effective and, with proper apparatus, most easily applied of all preparations employed against the biting insects, which include besides the leaf feeding caterpillars and beetles, the codling moth or rather its larvae, the apple worm, and several curculios. In most bulletins and articles by professional entomologists and horticulturists these same remedies are prescribed for the insect enemies of grapevines, berry bushes, vegetables and flowers.

In commercial orchards, berry fields and truck patches these poisons may be used with greater economy of materials and labor than any other yet discovered, but in the family garden any non-poisonous insecticide that will serve the purpose is much to be preferred. There is danger to children as well as to poultry and birds in drenching currant bushes, strawberry beds, lettuce and cabbage plants with arsenical sprays and, when treatment is necessary, the use of an innocuous substitute, if one exists, should be employed.

One of the most generally effective of these is Pyrethrum powder, or Persian insect powder. It is made from the dried and pulverized blossoms of a handsome plant of the chrysanthemum family and its production is one of the large industries of certain sections of California, where this Asiatic species best flourishes.

The aromatic oil upon which its toxic quality depends is, however, very volatile and the can or case in which it is shipped should be closed as quickly and as tightly as possible after the portion required for use is taken out. The lack of virtue, of which some users complain, is due to the fact that they purchased by the ounce or pound kept by the dealer in a loosely-covered cask.

It is safest to buy by the can or case tightly sealed. It can be applied as a dry powder and, when strong, diluted with an equal amount of flour. It is effective against both biting and sap-sucking insects, will kill all cabbage insects except the harlequin bug and is speedily fatal to every kind of aphis except the brown species that attacks the chrysanthemum, probably because the latter plant is so similar to the one from which the insecticide is manufactured that the insects are inured to its qualities.

Flies are killed by diffusing the dust through the room and closing the latter for a short time when the flies will be found upon the floor in a stupefied condition and may be swept up and burned. A smudge made of a pinch of two of the powder on coals or a hot shovel will speedily clear a room of mosquitoes.

Another widely valuable preparation, which for some reason is not perfectly understood, and an absolute specific against all species of sawfly larvae, is white hellebore. This is made from the powdered roots of Veratrum veride, a coarse weed of low meadows and swamp lands. It is one of the safest and most convenient remedies for use against the currant, strawberry and rose "slugs," as these larvae are called. It is also deadly to most smooth caterpillars.

It may be applied in the form of powder dust or through a thin muslin bag or with a powder bellows, and may be diluted with several times its bulk of flour. On rose bushes it is best made into a tea, steeping one ounce in a couple of quarts of hot water and, when cool, diluting with sufficient water to make 3 gallons and apply with a syringe or whiskbroom. The time to apply it is in the evening, whether powder or infusion is used, as the sunlight rapidly neutralizes its power and also because the insects against which it is effective are mostly night-feeders.

Tobacco has been discovered to be one of the useful of the practically non-poisonous insecticides. It can be adapted for this purpose in various ways.

For aphides and other root-destroying insects a simple mulch with the coarse stems and refuse placed around the trunks of infested fruit trees and other plants will in most cases not only cause the insects to disappear, but will supply an excellent fertilizing element to the soil. In the form of powder diffused by means of a dust sprayer or powder bellows, it will speedily rid trees and bushes of aphides and repel many of the small flies that cause galls and deformations on the leaves.

For use in the garden and greenhouse great dependence is now placed upon tobacco extract. This is prepared from the waste of the cigar and other factories, and contains a considerable per cent. of pure nicotine. One to three per cent. of this in either hot—not boiling—or cold water, is harmless and not disfiguring to the most delicate plants, while it either exterminates or repels their insect enemies. It is also largely employed against animal parasites on stock.

The green cabbage worm and many other pests of this vegetable can be killed by drenching the plants with the following preparation: One-fourth pound alum, one pound lime dissolved in one-half gallon of hot water. In applying use three fluid ounces (six tablespoonfuls) to ten quarts of water. Some of these substances, such as the white hellebore and tobacco extract,. possess genuinely poisonous qualities, but, in the proportions in which they are used as insecticides, they are harmless to the larger animals.—Ex.

### HORTICULTURAL NOTES.

Save the hard wood ashes for the strawberry plants and grape vines.

Do not prune new raspberry canes until early spring. Cut out the old canes now.

Raspberry vines that show signs of anthracnose should be dug up and burned if it is desired to save the others.

Hold plant disease and insects in check by going through the plum, cherry, peach and apricot orchard after harvest and picking up diseased and fallen fruit.


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# The Ornamental Garden

## THE TOAD AS A FRIEND.

GREAT and benefical results are often accomplished through very humble agencies. Darwin has established the claim of the earthworm to the gratitude of the tiller of the soil, and modern science is revealing thousands of hitherto unseen and unknown agencies working in the interest of man. Science now comes forward to establish what a few have long maintained, viz, that the ugly and despised toad is a faithful and efficient servant of the farmer.

From the earliest times, the toad has been associated in the popular mind with a host of "vague and ludicrous fancies as to its venomous qualities, its medicinal virtues, or most commonly, the hidden toad stone of priceless value." To these venerable creations of the imagination have been added others equally absurd, such as "that touching toads will produce warts on the hands; that killing toads will produce bloody milk in cows; that a toad's breath will cause convulsions in children; that a toad in a newly dug well will insure a good and unfailing supply of water, or in a new-made cellar will bring prosperity to the household, etc." An investigation of the habits, food, and economics of the American toad dispels these fallacious ideas, and at the same time establishes the claim of the little animal to our consideration and appreciation.

The eggs of toads are nearly black in color and rapidly increase in size. In two weeks the young tadpoles are clearly outlined, and in three or four weeks the eggs hatch. The vegetable detritus of the pond bottoms and the slime and algae attached to sticks, plants, etc., seem to be the common food of the tadpole. Warm weather favors the growth of the tadpoles. At time of leaving the water they are exceedingly sensitive to heat, and secrete themselves under leaves, rubbish, stones, etc., during the day; but let a vigorous shower descend and the transformation is magical. The walks, roads, and gardens at once become peopled with myriads of these thirsty, leaping creatures, and their sudden appearance has led to the popular belief that they "rain down."

Many of them reach an age of at least 10 or 15 years. Experiments have been made which "show that it is possible for the toad to exist for a limited time without food, but throw a shadow of improbability upon the stories of those found in rocks, trees, etc."

When suddenly disturbed or roughly handled the toad ejects a colorless fluid from the anus and a milky liquid from the skin. This habit is probably the basis for the belief that the toad is venomous. The secretion of the skin glands is harmless when applied to the hands, but it evidently possesses acrid properties, since when toads are bitten by dogs or cats the latter usually have a copious flow of saliva, show signs of discomfort, and in many cases coming under the observation of the writer have manifested considerable distress.

The toad sheds its skin four or five times each year.

The toad can not endure high temperatures. It is a nocturnal animal, and ventures out during the day only when tempted by an abundance of food in its immediate vicinity or when the air is full of moisture. It eats only living insects, centipedes, etc.

The toad's tongue, its only organ for seizing food, is soft, extensile, attached in front but free behind, and is covered with a glutinous substance which adheres firmly to the food seized. So rapid is the motion of this weapon that a careful watch is necessary in order to see the animal feed. * * *

At night, soon after sundown, or even before on cool evenings, the toad emerges from its shelter and slowly hops about in search of food. Something of a regular beat is covered by these animals, whose sense of locality is quite strong.

The toad as a rule feeds continuously throughout the night, consuming in twenty-four hours an amount of food equal in bulk to about four times the stomach capacity.

A careful examination of the contents of the stomachs of a large number of toads showed that 98 per cent. of its food was animal matter—worms, insects, etc. "Eleven per cent. of the toad's food is composed of insects and spiders beneficial or indirectly helpful to man; 80 per cent. of insects and other animals directly injurious to cultivated crops or in other ways obnoxious to man." It is estimated that a single toad destroys in a year insects which, if they had lived, might have damaged crops to the extent of about $20.

To all agriculturists the toad renders conspicious service, but gardeners and greenhouse owners may make this animal of especial value. Every gardener should aim to keep a colony of toads among his growing crops and the practice of collecting and transferring them to the gardens is a commendable one. While the sense of localiy is strong in this batrachian and it will often return over considerable distances to its original haunts, yet it may be induced to remain in new quarters if there is a sufficient food supply.

The crow and various species of hawks and owls are the chief natural enemies of the toad, but as a common enemy of the toad the ubiquitous small boy plays a prominent part.

There have been excellent laws enacted to protect our insectivorous birds. Why should there not be as stringent legislation against the destruction of toads? If merit of service rendered to man be the standard by which legislation is determined, the toad presents a record which will compare favorably with that of any insectivorous bird. Public sentiment in a matter like this, however, exerts a stronger influence than legislation, and when the services of this animal are appreciated and the toad receives in our public schools recognition similar to that given to the birds, then we may expect to see a lessening of the wanton destruction of this humble servant of man.—The Apple.

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There's a saying old and musty,
Yet it is ever new:
'Tis, Never trouble trouble
Till trouble troubles you."


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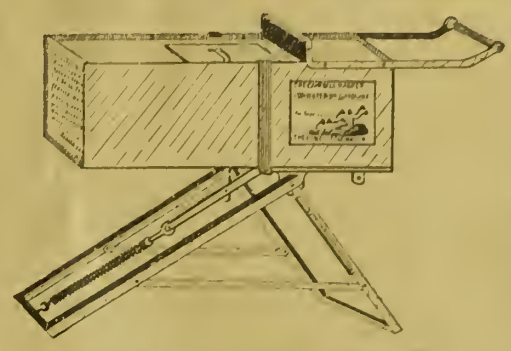

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# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 DUANE ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California. as Second-Class Matter.

Thursday, September 23, 1909

Address all communications to Cultivator Publishing Co., 15 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

Frank H. Thomas, Adv. Mgr., 115 No. Broadway, Los Angeles
M. C. Holman, San Francisco Office, 733 Merchants Ex. Bldg.
Fisher Special Agency, Eastern Office, 150 Duane St., New York
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## Lemon Freight Rates.

AN EDITORIAL prepared for last week's paper, which was forced out at the last moment, referred to the possibility of the railroad people demanding a part of the increased tariff on lemons by raising the freight rates. Rumor has been persistent since the passage of the bill in asserting that the railroads would do this. The Cultivator did not believe it and had in type an article saying:

The lemon industry has been in a serious situation for several years. An uplift has now been given and the mistake of such a step taken by the transportation companies which would discourage it is inconceivable The millions of dollars paid by the orange gtrowers for freight may not be equaled by by the lemon men, but the amount will be greatly increased over the present if the industry is encouraged

This article was headed, "The Goose That Lays," and the paper was not off the press before the railroad management announced their intention to sever the head of a producer of the golden eggs.

Regarding this raise Mr. F. Q. Story, Chairman of the Executive Committee of the Citrus League, says: "The railroads are exercising undue haste in trying to wrest from the growers the benefit of any portion of the tariff which the government awarded to them after careful investigation of the argument that the success of the lemon industry absolutely demanded the protection given by law."

Assuredly the railroad people have not been slow in demanding the benefits of the advanced tariff. This may profit them in the end, but we believe they have made a mistake which, in view of the enterprise shown by the big corporations in other lines, is to be wondered at. The same companies will put up thousands of dollars to conduct demonstration trains which bring in not a penny of direct returns, claiming—which is doubtless entirely true—that the companies wish only to encourage more intelligent farming that the farmers may bring greater tonnage to the railroads. Had the railroads deferred this action a year, or two or three years, it would have encouraged the industry and put it on its feet to the increased profit of the railroads.

The lemon men consider this an especial injustice because for years, excepting in occasional seasons of high prices, the railroads have received far more from the lemon industry of California than the lemon men themselves.

## Stand by the Reclamation Service.

LAST week's Cultivator contained an editorial on the reclamation service, referring particularly to the relations between Secretary Ballinger and Forester Pinchot. The editorial had been written some time before but held over for lack of space. It was barely in print when the press despatches announced President Taft had unqualifiedly sustained Secretary Ballinger. To say this decision was extremely disappointing to the people of the West who are anxious to see our great resources conserved for the people, is to put it mildly. There seems to be no spirit of criticism or of anger at President Taft for his action, but rather regret that his viewpoint did not permit him to sustain the reclamation service.

The Los Angeles Express says truly that the tone of President Taft's letter conveys the idea that: "If the technicalities of the law are such as to prevent the water-power trust and the timber-land grabbers from gobbling up the public domain, then conservation of the natural resources is a good thing. But if every step taken in conservation is not strictly within the law and buttressed by legal authority, then—well, then the gobblers must be permitted to gobble.

"Roosevelt would deal with these private grabbers of public property in any way that his unlegal brain could invent. His first thought would be how to preserve these valuable rights to the people.

"As between the Taft way and the Roosevelt way, however, it is merely a difference in mental attitudes. Each acts honestly and in the light as it is given him to see the light."

Secretary Ballinger's address at the Irrigation Congress was of such a tone that many cannot overcome the feeling that he is more friendly to the large interests than to the home maker.

## Texas Rice Day.

ON California Raisin Day, April 30th, appeal was made to the people of the United States to celebrate the day by making raisins the principal feature. It is said that amongst those who took up the suggestion most heartily were the Texas rice growers. They now come back at California and request of its people and all others the observance of September 30th as 'Texas Rice Day." The Southern Pacific Railway Co. has joined in the plan and has instructed all Sunset diners, Atlantic Coast steamers and Sunset eating houses to serve complimentary rice desserts on that day, combining with the rice some California fruit.

In consideration of the healthfulness of the food and the desirable dishes it makes, it will be fitting that California fruit growers enter into the spirit of the day and add rice to their bill of fare on September 30th.

## Advancement.

CALIFORNIA seems to be the horticultural training ground for workers for all sections of the world. Our horticultural activities are so conducted that the worth of our better posted workers seems to be recognized. A few years ago Mr. Alexander Craw was taken from the state quarantine office at San Francisco to take charge of the quarantine work of the horticultural department of the Hawaiian Islands. Since his death until a few weeks ago the office has remained vacant. At that time Mr. Edward M. Ehrhorn who had filled Mr. Craw's place at the port of San Francisco since his transfer to the islands, was tendered and has accepted the position formerly held by Mr. Craw in the Hawaiian Islands.

Mr. Ehrhorn has made a most efficient officer; he is a thorough entomologist, and a world authority on scale insects; and has safeguarded our state against the entrance of numerous pests which would have found admittance but for his watchful eye. He has an enviable reputation the state over as an officer, a gentleman, and a scientist, and he will take with him to his new home the best wishes of thousands of fruit growers and friends in this state.

## Farmers Club.

ONE of the live horticultural clubs of Southern California is the Claremont Horticultural Club, a report of whose last meeting in June was given in the Cultivator. While it is called the Claremont Club, it has extended its scope and usefulness until it concerns a large portion of at least Southern California. It holds monthly meetings excepting during mid-summer, its last meeting before and first after the vacation being in Ganesha Park, Pomona. This latter meeting will be held this year on Monday, September 27th and will be addressed by prominent men amongst whom are U. S. Senator Flint, Jas. Mills of Riverside, Judge A. F. Call of Corona, and C. C. Teague of Santa Paula. There will be forenoon and afternoon sessions with a picnic lunch at noontime. There will also be an automobile ride over a portion of the valley.

## Placer County Aroused.

STATE COMMISSIONER of Horticulture, Jeffrey, issued a call for a meeting of the fruit growers of Placer County to be held at Newcastle on Wednesday, September 29th, to consider means of controlling various fruit pests, and to secure the appointment by the board of supervisors of the county of an efficient horticultural commissioner under the new law, also to consider matters of general interest to fruit growers. The meeting seems to have widened in its scope, until now it is expected that fruit growers from many sections of the Sacramento Valley will be present. Some of the strongest men of the northern part of the state will be there to urge this appointment which will give an uplift to the fruit industry.

We do not know as to the former attitude of the board of supervisors, but assume that this action is made necessary by their indifference to the greatest industry of that productive section. It is to be regretted that "politics"—used in its lower sense—predominates to such an extent that men elected to important positions fail or refuse to recognize our greater industries.

Another question which may be discussed at this meeting, if there is time, is that of leasing orchards to Japanese contractors. This practice has brought about a serious situation in many sections of the state and its early discussion will prove beneficial.

## Apple Crop.

THE SEPTEMBER number of the Crop Reporter issued by the Department of Agriculture gives the average condition of the apple crop September 1st as 44.5 as against 46.3 last month and 52.1 on September 1st, 1908, and a yearly average up to September 1st of 55.5

This shows a material shortage of apples which Pacific Coast apple growers will benefit by, and we may say that Pacific Coast growers of all kinds of fruit will also benefit to a certain extent.

## More Picnics.

SAN FERNANDO fruit growers have formed the picnic habit and the Fruit Growers Association has issued a call for an all day meeting and picnic for Saturday, October 9th. The forenoon will be spent in visiting various orange and lemon groves, discussing methods of culture, pruning, etc., after which all will gather at the orange and lemon packing house at one o'clock for luncheon such as farmers' wives know how to prepare. The afternoon will be given up to discussions by prominent speakers from different parts of the state.

# Agricultural News Notes of the Pacific Coast

## Northern California

A grape festival will be held at Kentfield, Marin county, October 2nd.

The Yuba City packing house is now sending out large quantities of fresh figs.

Over $200,000 will be received by Mendocino county for its hop crop this season.

Buyers of cattle are picking up many bunches of cattle in the vicinity of Corning.

Sebastopol farmers recently held a meeting and organized a branch of the farmers union.

The officers of the new farmers union at Santa Rosa are J. T. Pepper, President and E. J. Ferguson, Secretary.

Early peaches are practically all cut and dried at Vina, Tehama county, and liberal cutting has been made of later varieties.

A cherry grower near Oroville has been exhibiting some September cherries raised at an elevation of 2750 feet back of that city.

One vineyardist at Gridley, Butte county, picked and sold 22 tons of Thompson Seedless grapes from three acres, netting $18 per ton.

The Armsby Preserving Co. Cannery at Yuba City closed for the season because of lack of drainage of surplus water from the cannery.

The Chamber of Commerce at Corning, Tehama county, has an exhibit of the fruits and products of that section in the Board of Trade rooms at San Francisco.

District No. 777 near Live Oak is in a serious condition because of a lack of proper drainage. Rights of way for a new drainage canal are under contemplation.

Wine grape growers at Gridley have refused to accept the five or six dollars a ton from the California Wine Association and are looking for other market for their grapes.

The restriction of the national forests and the uncertainty of securing summer range for stock have caused some sheep and cattle owners at Red Bluff, Tehama county, to retire from the business.

The smelter situation in Shasta county is becoming more and more serious and the Shasta Farmers Protective Association is holding many meetings at which greatest indignation is expressed.

The branch of the California Wine Association located at Woodland is not purchasing any grapes of the local growers, but depending entirely upon fruit shipped in from the northern part of the county.

Owners of orange trees at Marysville are finding that their trees which were defoliated a couple of years ago in order to clean up the white fly, are now full of young wood and bearing excellent crops.

The state horticultural commissioner has called a meeting of fruit shippers to be held at Placerville Wednesday, Sept. 29. It is called primarily for the fruit growers of Placer county, but delegates from other counties will attend.

## Central California

Salinas boasts of a 25 pound sugar beet.

Shipments of Malaga grapes have been returning prices which were not up to expectations.

The Mohave "Desert" is now producing some remarkably fine watermelons and cantaloupes.

Articles of incorporation of the Turlock Farmers Union have been filed with the County Clerk.

The farmers union at Fresno has inaugurated a movement to secure the 1910 National Union for that city.

The Spreckels sugar factory is now turning out about 3000 sacks of sugar daily. Its full capacity is 10,000 sacks.

A forest fire of great extent and damage visited the Great Basin section of the Santa Cruz mountains last week.

The grape juice factory at Turlock expects to put out about 150,000 gallons of juice as the product of this season's run.

A Turlock grape grower claims to be able to get more than five dollars per ton for his grapes by feeding them to hogs.

One feature at the Tulare Fair this week was a seven day butter fat contest in which seventeen registered cows were entered.

The Modesto creamery which started eight years ago on 125 pounds of butter per day, now has a daily output of 3,500 pounds.

Notwithstanding the immense losses by fires in this state last year, it is now predicted that this year's losses will be far greater.

A Japanese engineer investigating as to American irrigation methods visited the great Turlock-Modesto Irrigation System last week.

Percy Morgan of the California Wine Association asserts that the independents are responsible for the cut in price of wine grapes.

Watsonville has shipped nearly 400 cars of Newtowns and bellefleurs. So far this season an abundance of cars has been supplied by the railroads.

The chamber of commerce at Fresno has refused to furnish a site for an olive oil factory, maintaining that it is against the policy of giving bonuses.

Livestock raisers with ranches in Santa Clara and Santa Cruz counties have filed suit against the Southern Pacific railroad for sheep killed on the tracks.

Sweet potato growers of Turlock, Atwater, Merced, and other points, met recently at Merced for the purpose of forming a sweet potato pool and disposing of their crop at best prices. They refuse to sell for less than one dollar per hundred.

The Laton Co-operative Creamery Association held its annual meeting the last of August and Secretary G. A. Smith reported 6,934,981 pounds of butter for the year's work, which sold for $202,547. The average price for butter fat to the members was thirty cents.

## Southern California

About 500 cars of Valencias still remain to be shipped.

Orange county will produce about 50,000 sacks of balckeye beans.

Farmers of Imperial Valley will sow their grain earlier than usual this year.

San Diego county lemon growers are pleased at the lemon tariff which is giving them a small boom in land values.

Several threshing machines are busy with the lima bean crop of Ventura county.

Six separate and very serious fires occurred in the San Gabriel watershed during the past week.

Fruit growers of Bloomington, San Bernardino county, held a picnic at the orange packing house last Saturday.

A meeting was recently held at Thermal to consder the advisability of forming a county farmers union for Riverside county.

Ventura county sugar beet growers are testing a new beet topper which does excellent work more economically than the former method.

Redlands held one of its most interesting farmers institutes on the 15th and 16th, the discussions pertaining principally to citrus culture.

Orange county lima bean fields are producing much heavier than was anticipated and it is now estimated that the county will have over 250,000 sacks.

The first shipments of celery from Orange county were made by the Santa Ana Produce Co. on Sept. 16th. Celery is now bringing from $2.25 to $2.75 per crate.

Orange growers at Anaheim have decided to affiliate with the Semi-tropic Fruit Exchange and market fruit through it. Their association handles about 150 carloads.

The great pre-cooling plant being erected by the Santa Fe at San Bernardino will cost over one million dollars and is said to be one of the finest plants of the kind on the continent.

The announcements made by the railroad companies of an increase of fifteen cents per hundred in the freight tariff on lemons has created a storm of indignation in all lemon growing sections.

Articles of incorporation have been filed in Orange county for the Tustin Hills Citrus Ossociation. The directors elected are: J. M. Akins, B. H. Sharpless, A. J. Padgham, P. H. Covington and R. Brinsmead.

The first cotton crop of the Imperial Valley is estimated to run from a half to three-quarters of a bale per acre. This is said to be about the average production in regular cotton raising countries and not up to expectations for Imperial Valley.

The annual meeting of the stockholders of the Rialto Orange and Lemon Association was held on the 16th. The following directors for the coming year were elected: J. N. Knoblaugh, George Brua, R. E. Wilkinson, W. N. Glascock, W. F. Grow, M. C. Hodge, Floyd Gallihue.

## The Coast

Albany, Oregon, is to hold an apple show Oct. 27-29.

Clark county, Washington, reports filberts netting $675 per acre.

The new Union Stock Yards at Portland, Ore., opened on Sept. 15th.

Alamosa, Colo., has a single apple tree which yields 70 bushels of apples.

A Pullman wheat grower produced over 40 bushels an acre from 90 acres of grain.

Threshing machines near Coulee City, Wash., have practically finished the season's run.

Dry farm process have succeeded in vastly increasing the agricultural products of Colorado.

Some orchard lands in the neighborhood of Grand Junction, Colo., are held at $2,000 per acre.

Walla Walla, Washington, apple growers report their output of apples as less than that of 1908.

The combined harvester and thresher is taking the place of the header and binder in Washington.

The Coos County Fruit Growers Association will send a thousand boxes of Gravenstein apples to Hawaii.

Owing to unfavorable weather the cotton crop has dwindled in Texas to less than forty per cent of normal.

Prof. H. E. Van Deman will act as one of the judges at the National Apple Show to be held at Spokane Nov. 15-20.

Prune picking and drying began earlier than usual in the Portland, Oregon, section and is now in full swing.

A quarantine has been placed upon the hogs of the Yakima Valley until the cholera epidemic prevailing there is under control.

Sixty gorgeously painted Indians recently entered the huckleberry fields near Husum, Washington, to engage in huckleberry picking.

The members of the Senate Irrigation Committee were at Cheyenne, Wyo., last week and will later visit points in Washington and Oregon.

The poultry people of Eastern Washington will make the poultry department of the coming Inland Empire Fair at Spokane, a notable one.

Farmers in Yamhill county, Oregon, report the best yield of red clover seed this season that they have ever had and that the seed is of exceptionally good quality.

The sugar beet crop in the neighborhood of Holly, Colo., will aggregate over sixty thousand tons this year. The average price will be not far from five dollars per ton.

More than 200 pure bred animals have been entered by breeders of every section of the United States and Canada in the A-Y-P- stock show. This feature of the exposition begins next Saturday.

Prof. P. J. Iddings representing the Dry Farming Congress, will investigate farming conditions in Arizona. Prof. Iddings was formerly connected with the Colorado Agricultural College.

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# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90, 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

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# Profit in the Poultry Yard

We solicit short articles of a practical nature from the farmer and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

## LICE, MITES AND FILTHY HOUSES

By Mrs. Frank Metcalf.

THIS is not a savory subject, and one would think it worn threadbare, but too much cannot be said or done to subdue the one and eliminate the other. Dirty coops are very nearly always lousy, so keeping them clean is a great help towards keeping the lice and mites in check, but is not all-sufficient. Some strong vermin killer must be used thoroughly and often, the best and most successful poultry raisers spraying every two weeks, year around, with something strong enough to kill vermin and at the same time disinfect the building. Many preparations are on the market for this purpose and a glance over the advertising columns will convince you that there are plenty of "dopes" warranted to do the work for which they are intended, if used rightly.

Stinginess in this matter is "saving at the spigot, and wasting at the bung-hole," really and truly. And in spraying, one must remember that the whole place must be drenched, top, bottom and sides, and between joints, or the work is ineffective. To go into a henhouse and carelessly squirt a few drops here and there won't do. Drench the whole place inside and out, then take a cloth wet in the spraying material and wipe off the under sides of every roost and nest box, and I do think you will be rewarded by the find of thousands of unsuspected mites, piled up in the most out of the way corners imaginable. Why, I found a whole city full living in a crack in a brick under the out door nest in one yard. Big fat red mites, that showed they were enjoying life in the most mite-like manner. They did not enjoy the bath of distillate I gave them and not one lived to perpetuate his kind.

At this time of year chickens are also likely to get wormy, as they pick up much fruit, and various kinds of germs and eggs may be lodged thereon. It is well to give them an occastional dose of sulphur, say a teaspoonful in each quart of mash, as this won't do any hurt even if no worms be present. Salt should also be given occasionally, as hens need a certain amount of salt as well as other stock, and salt in a good vermifuge in itself.

If sulphur is liberally sprinkled in the dust bath, it helps in ridding the fowls of body lice, and is excellent to rub through the feathers once in a while anyway. Being so much cheaper than buhach, it can be used with greater freedom, and we need to save every cent we can to make profits in the poultry yard. An old Dutch woman who was very successful with her fowls, used to regularly take a mixture, composed of road-dust 1 bushel, sulphur 1 pound, wood ashes 1 quart, and slacked lime 1 pound, and give every fowl on the place a bath once a month, willy nilly. Setting hens had to come off the nest, hens with chicks also had to be treated and her hens always "paid."

## POULTRY QUERIES.

**Size of Pen.**

We have a chicken pen 70x70 feet, containing six large orange trees. Adjoining it is a corral 40 by 41 feet, chicken tight. With good houses and proper care how many hens can profitably be kept in the above pen which has access to the corral?—A subscriber, Fillmore.

It all depends upon the care how many hens can be profitably kept anywhere and in a small space the care is doubled, as the premises must be kept reasonably clean or disease will decimate the flocks.

Your 70x70 space contains 4900 square feet, and allowing ten square feet for each hen, 400 hens could be kept on this ground by constant care, but half the number would probably prove far more profitable.

As you have six orange trees, a good way would be to divide your space into six pens, each one containing an orange tree for shade, and keep 25 in each flock at the start. Fifteen would suit me better, but I like to give them more room than most people do, although the experience at most Experiment Sta. demonstrates the fact that 15 is the proper number to keep in a flock for the best results. It is not always how many, but how well a flock may be kept that pays, at least in the end. Unless you are well used to the care of chickens, I should advise a smaller number until increased experience warrants the maximum number that can be taken care of.

With fifteen in a flock, and with six flocks, you would have 90 hens. Each hen would have plenty of elbow room, although, of course your houses will take up some room and I believe that fifteen comfortable hens will pay better returns than 50 crowded ones would do, but remember, my opinion is not infallible.

**Roup.**

Will you kindly advise me what remedy I should give my chickens? First they had the roup, and then one eye began to swell and soon the other one was swollen also.—A subscriber, Petaluma.

If I should advise the ax, I should give my inmost conviction as the very best possible remedy for your sick birds, and a deep burial of all carcasses where they will never be dug up by other stock, or, better still, burn them. This may seem a harsh measure, but of what use are those cured birds anyway? They will never again be fit for breeders, as their offspring will inherit the tendency to the disease, and the first cold wind that blows upon them, they will develop the same symptoms, so the best way is to separate all the ailing birds and kill them off, then clean and disinfect the coops and plow the ground deeply and grow some crop on it before using it for fowls again. When roup once gains a foothold in a flock, profits disappear, and the cheapest way is to stamp it out thoroughly by killing off all diseased birds and removing the well ones to fresh runs and houses if it is possible to do so. I have experimented with different remedies and have cured birds which were, apparently in the last stages of roup, eyes almost bursting, in some cases one eye entirely gone. Have used the solution of permanganate of

potash and cured the worst cases, but the hens never laid enough eggs to pay for their feed, and I never cared to eat their carcasses, after knowing how sick they had been, never would sell what I couldn't eat myself, so of what avail was all my painstaking when the ax would have settled the matter so much more speedily and cheaply and with so much less suffering for the patient? If you want to try for yourself, get 5 cents worth permanganate of potash, and dissolve in three pints of warm water. Immerse the affected head in it, eyes and all until the bird strangles, which draws it into the throat and head. Repeat night and morning until cured. There are good cures advertised in our columns right along, already prepared for use, but nothing like the ax.

### Ptomaines.

Will rotten potatoes cause limber neck or any other disease in poultry? Lost a four months old turkey last week, evidently from what was limber neck, don't think there was any possibility of it having secured any putrid meat, but do know the flock got some rotten potatoes. Have seen it stated that limber neck was not caused by the maggots in putrid meat, but by ptomaine poison.—B. E. S., Pomona.

I think the maggots in putrid meat do cause ptomaine poison, and that limber neck is a symptom of ptomaine poison. I should suppose that the maggots themselves would be fresh meat enough, but the fowls can scarcely eat them without also getting a portion of the surrounding tainted meat along with them. I should not consider rotten potatoes a safe diet for chicks or turkeys, as the decaying matter would set up an intestinal irritation very similar to ptomaine poisoning if any quantity was eaten.

Sometimes an egg that contains a dead chick is carelessly thrown away, and a whole colony of maggots evolve, and chicks or turkeys are sure to find just such things, and then, look out. A vigilant watch must be kept all the time if we would protect our stock from danger and ourselves from consequent loss.

### Fireless Brooders.

Are fireless brooders a success and are they as good as lamp brooders? Can the heat be regulated in them, and can the chicks be kept warm in them in cold weather?—R. B., Hanford.

Chicks can certainly be kept warm in the fireless brooders while they are in them, in any weather, but of course, when out of the brooders, there is no heat in the air in the house or shed in which the hover is kept, so for cold weather, some system of taking the chill off the air must be provided during the daytime. So, for winter raising of chicks, perhaps lamp brooders would be best, unless one used a small size oil stove during the days, which would be necessary only on cloudy days, the sun being usually sufficient to keep the chicks warm while exercising.

For summer use, I can testify to their complete success, for the raising of both chicks and turkeys, but only 25 chicks, or 15 turkeys should be kept in a flock in one hover, which makes it difficult to care for a large number all wanting to be tucked into bed at once.

It is claimed that the chicks soon learn to go into the hover, as under a hen to get warmed up during the day, but either my chicks were "contrary" or not properly taught, for they insisted upon staying out until put in at night. But they did thrive and grow well, which is all that one can ask or expect.

### CULL OUT ALL INFERIOR CHICKS.

If farmers are looking forward to the time when they shall own hens capable of laying 200 eggs each per annum, some attention must be given the selection of the parent birds, and close observation and selection of the chicks should be the rule.

Farmers are not sufficiently careful regarding the stock to be retained for the succeeding years. Chicks are kept for months that do not show the least signs of growth in that time, and hours of labor are lost in caring for some that should be sold or destroyed even when healthy.

If only the best fowls were retained and the inferior ones discarded as soon as they show that they cannot keep up with the others, there would be a great deal of saving of both time and food, and more room might be secured for those that are retained. Inferior chicks or adults will amount to nothing but a loss in the end and they should be gotten rid of before they cost the owner more time and money. Many young fowls that are kept until quite large should be eaten by the owner, and thus save a small sum in the meat line, instead of retailing expense.

Only a small proportion of the farmers have ever made poultry pay. Generally if hens have paid on the farm, they deserve all the credit. There are no fabulous profits in poultry, nor is the capital required much less than for other stock, but the losses are sooner recuperated and better prices are obtained. The returns from poultry and eggs are constant. There is always a retail demand which the farmer himself can regulate and supply.

The most careful experiments have demonstrated that each hen in a large flock should give a profit of $1 a year. Some hens will pay nearly twice as much, while some will not pay at all. The cost and profit are regulated by circumstances, as is the case with all industries. Much improvement will result if farmers will take hold of this matter and give their attention to culling and selection as early in the year as possible.—The Poultry Yard.

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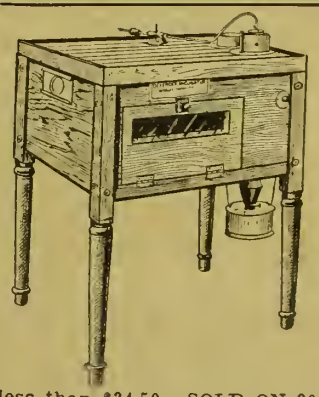

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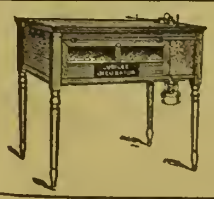

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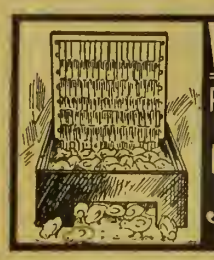

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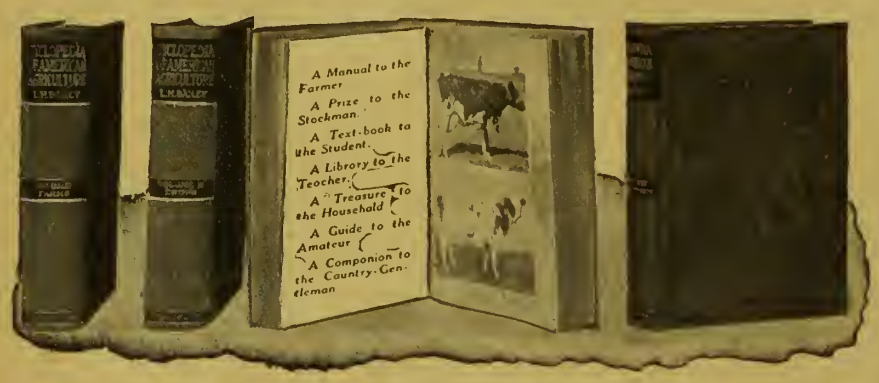
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# Bees and Their Care

## HONEY VERSUS CANE SUGAR.

A CHILD'S craving for sweets of some kind shows a real need of the system in that direction; but, unfortunately, the sweets at hand and usually given to supply this need are not wholesome, and serve no better purpose than to please the child's taste. In fact, the work of changing the cane sugar into grape sugar so that it may be assimilated is often too great a tax upon the child's stomach, and sickness results. This, however, is not the case with honey. The bees have fully prepared it for immediate assimilation, and it is ready to be taken into the system without taxing stomach or kidneys. Doctors frequently order honey for those whose digestive organs are too weak to convert cane sugar into grape sugar properly. The wholesomeness of honey, however, is not disputed by those who know anything about the product of the hive. The principal difficulty in the way of its substitution for the sweets usually craved by children is the apparent limitation of its use. The child has an inordinate longing for cakes and candy, and that is not always satisfied by bread and honey; therefore, to take the place of cane sugar honey must be prepared in the same manner as cane sugar. It must be made into cakes and candies and other dainties dear to the children. The object of this article is to supply housekeepers who desire to substitute honey for cane sugar, in the diet of their children, with a few simple recipes, obtained from practical experience, for making this wholesome sweet into a variety of pleasing confections.

A few suggestions on the care of honey may be of benefit to those who are so situated that it is cheaper to buy in quantities. The worst place to store honey, or even to keep it for a short time, is in the cellar or any damp cool place. Honey, when extracted from the comb, readily absorbs moisture, becoming thin, and (in time) sour. The very best place to store honey is in the attic, up next to the roof, where it is hot. During cold weather, honey that is kept any length of time has a tendency to granulate, turning to a white, semi-solid granular condition. This is called "candied honey," and it frequently "candies" so solid that it must be dug out of the bucket with a knife. It is a simple matter, however, to restore it to its former condition. Place it in hot water, never over 160°, and let it stay until it has liquefied. It may take an hour or it may take a whole day.

In the following recipes quantities are given in pints and pounds because the success of honey recipes depends upon the right proportion of the ingredients. All cups are not the same size, and do not hold the same quantity of material, therefore it is best to use a standard measure.

The simplest honey cake is the honey ginger-snap.

One pint of honey; ¾ lb. butter; 2 teaspoonfuls ginger.

Boil together for a few minutes, and allow it to get nearly cool. Add enough flour to make a stiff dough, and roll out thin; cut into round cakes and bake quickly.

Another simple cake is the cooky. The recipe is given for a large quantity because they will keep indefinitely, and they are nice to have in the house all the time for the children to eat between meals. If they are wanted in smaller quantities the recipe can be reduced a half or even one-quarter.

One pint honey; 1 quart sour milk; 1 teaspoonful soda.

Mix well together and add sufficient flour to make a soft dough. Roll moderately thin and cut into round cakes. Bake in a slow oven to prevent burning.

A richer cooky is made by the addition of butter and eggs. One pint honey; ½ pound butter; 4 eggs; ½ pint buttermilk or clabbered cream; 1 quart flour; 1 teaspoonful soda.

Mix the honey and the butter and the eggs well and add the buttermilk. Sift in the flour and soda, and mix well. Mix in enough flour in addition to the quart to make a cooky dough that will roll out well without sticking; cut in round cakes and bake in a slow oven.

In the line of confections, some sugar must be used to make the honey "candy;" but the home-made caramel has the advantage of being pure.

One pint honey; 1 lb. sugar; scant gill of cream.

Boil until it makes a soft ball when dropped into water. Stir in a teaspoonful of vanilla, and pour it into a shallow buttered pan to the depth of about half an inch. When cool enough to prevent its sticking to the knife, cut into inch squares. If chocolate caramels are desired, use a tablespoonful of melted chocolate instead of the vanilla, stirring it in just before pouring into the buttered pan.

To make honey popcorn balls, boil a pint of honey in an iron frying-pan until it is quite thick, and then stir in the popped corn. When cool, mould into balls.

As a substitute for tea or coffee for children there is nothing better than honey tea—a very simple tea made by adding a tablespoonful of honey to a cup of hot water. If not sweet enough to suit the taste of the child add more honey.—Mrs. Winslow in Gleanings.

## BUYING BEES AND BEE YARD.

Try and get them close to your home for the reason that jarring or disturbing the hives and combs is not conducive to obtaining the best results the first season. Buy three to five swarms, set them in a sheltered place with the hives so tipped that the entrance end is at least 3 inches lower than the opposite. Bees can put in time better making honey than cleaning out hives up hill and every mechanical advantage given is just that much time saved for honey production.

A sheltered place should not be so sheltered that the wax is stiff from low temperature in the hives, nor exposed so that the sun's rays beat onto the hives, keeping the bees hanging on the outside waiting for a temperature that permits the comb construction inside. From 6 to 8 inches off the ground is the most convenient height for working around the bees comfortably.—Farm Stock and Home.

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# General Agriculture

## RVESTING ALFALFA FOR SEED.

IN harvesting alfalfa for seed, cutting should be done when the greater proportion of the seeds are hard, but not sufficiently ripe to shell. At this stage a majority of the pods are turned a dark-brown color and the seeds are fully developed. Frequently the cutting can be raked into windrows after two hours if the weather is drying, and in two or three hours more put into cocks and let stand from twenty-four to forty-eight hours, as the weather may justify. It should, however, be well cured and thoroughly dry when put in the stack, or there is danger of heating, and stack-heating seriously injures the vitality of the seed. It is not uncommon, if extremely ripe, to leave the cutting in the swath only an hour or a half-hour, then stack, and let stand for autumn or later threshing. If allowed to stand in the stack for about thirty days, the entire mass goes through a sweating and curing process which makes the threshing easier, while less of the seed is left in the straw than would be if it had not been stack-cured. In western Kansas many seed raisers cut their seed crop with a self-binder, put the sheaves in shocks the same day and thresh in about ten days, or put them into a stack to await a convenient threshing time. They claim to secure 20 per cent. more of the seed in this way than if they cut with the ordinary mower. Others cut with a mower having a dropper attachment which leaves the alfalfa in small bunches at the will of the driver, in the center of the swath, and these are "straddled" by the team and the wheels of the mower in the subsequent rounds. These bunches are left for two or three days and then stacked. There is little, if any, danger from mold or spontaneous combustion in stacks of alfalfa cut for seed, but there is danger of the seed heating in the stack if stacked when damp. If bright, clean seed is expected, the stacks must be well topped with slough grass, covered with tarpaulins or boards, or given other protection. It is better still to put the alfalfa intended for seed into a barn.

One western Kansas farmer reports that he used a self-binding harvester, shocked the sheaves like those of grain, let them stand ten days and then put in a mow, with no bad results.—From Coburn's "The Book of Alfalfa."

## SCHOOL OF AGRICULTURE.

The College of Agriculture of the State University has just issued its Circular 45, announcing the Short Courses for farmers, to be given this fall on the University Farm at Davis. The plan is much the same as that of last year, but with some significant changes. The courses are intended for busy people, who are not able to take much time from their work. To suit their convenience the courses have been condensed as much as possible, by beginning each day's work a little earlier and closing a little later, and by the use of evening lectures. In this way, every course save that in Dairy Manufactures is made a week shorter than it was last year, while the same amount of work will be done. A new course is offered in the dairy department, in Market Milk and Cream Supply.

A new feature which has been tried elsewhere with great success is the institution of "Farmer's Week." This is for the purpose of concentrating into the shortest possible time the greatest possible amount of valuable and stimulating suggestion and instruction in agricultural topics. No California farmer can afford to miss this week. It is hoped that every one who attends any of the short courses may include this week in his stay at the Farm, and that many who cannot take time for other more extended courses will succeed in coming to "Farmer's Week."

Last year more than a hundred students were enrolled in the Short Courses. It is expected that a much larger number will attend this year. A list of the courses, with dates, is appended; and Circular 45 will be sent upon application to the Superintendent of Farm Schools at Davis.

**Short Courses, 1909.**

Dairy Manufacture.—Eight weeks: Oct. 4th-Nov. 24th.

Market Milk and Cream Supply.—Two weeks: Oct. 11th-24th.

Irrigation, Fertilizers, Field and Forage Crops.—Two weeks: Oct. 11th-23rd.

Poultry Husbandry.—Two weeks: Oct. 11th-23rd.

Animal Industry and Veterinary Science.—Three weeks: Nov. 1st-19th.

Horticulture, Viticulture and Entomology.—Two weeks: Nov. 1st-13th.

Farmer's Week.—Oct. 25th-30th.


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All of the valves or working parts of both our single and double acting pumps can be removed, repaired and replaced without pulling up the cylinder or heavy column pipe or moving the power head off of its foundation.

Write **A. T. Ames Manufacturing Co., Niles, Cal.** for Catalog

# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Milk For Young Colt.

A subscriber has a fine colt of draft horse type, weaned, but which he wishes to feed up so as to secure best results. Is feeding whole cow's milk. Wishes to know if skim milk will answer as well. Mrs. Sherman answers: We raise the orphan colts on separator skim milk. It must be absolutely sweet. Where there is a separator run twice a day at the ranch this is entirely practicable. To each quart of the milk add a tablespoonful of lime water and a level teaspoonful of sugar. Feed the milk blood warm or about 98 degrees of heat. If the milk is not run through a separator at home I should feed him fresh cow's milk reduced by adding one quarter water or if the milk was very rich add a third water. Use the water from the tea kettle that has been boiled. Add the sugar and lime water the same as for the skim milk. Mare's milk is sweeter, has more mineral matter and much less fat than cows milk. The idea is to imitate it as closely as possible. Two per cent of fat is about the average of the fat in a mare's milk while the family cow will average about four per cent. Pick out a handful or two of alfalfa leaves and put in a small box for the colt to nibble. Our draft colts eat it freely at two months old as well as considerable grass. The thing to avoid is heavy grain with a colt. We have lost two that ate from the rolled barley at their mother's side. Keep everything used scalded well, as scours are the cause of most colts' deaths that are raised by hand. The excess of fat in the cow's milk is a fruitful cause, cold milk another, and lack of sterilization of milk pans the third. If these things are done the colt will thrive and make as good an animal as though he had been raised by his dam. The best way to feed him is in a pan about four or five inches deep for then he has to drink slowly. If a pail is used the colt often chokes himself as he gulps the milk down. I have often observed that the big bellied horses predisposed to scours have this way of drinking and if they are made to drink slowly the scouring difficulty passes away. With scours often comes colic and that kills more horses and colts every year in California than any other single cause.—M. E. S.

### Abscess.

Will you kindly tell me what is the matter with my cow? Three months ago her throat and the side of her head swelled up, but swelling all disappeared in two days. This occurred several times. Now it has settled into a permanent bunch on the back of jaw running down from the ear. It is pear shaped and seems to be loose, not attached to the jaw. Is this lumpy jaw, and can I cure it?—A. L. C., Gardena.

This is not lumpy jaw as it is not fastened to the bone. It may be an abscess that will come slowly to a head and break. If it is discovered to have matter in it, it had best be opened at the lowest point so that it will drain out. Then cleanse it with a peroxide of hydrogen in water daily until there is no more pus formed. I view all abscesses around the glands of the neck with suspicion, as this class of troubles does not come in the tuberculin tested herd except from a fox tail. I would have the cow tested at once before attempting to doctor her. If she does not react and is not condemned, it would be well to use tincture of iodine on the lump until it is well roughened. Then grease it until the pimples subside, Continue use of iodine until lump is absorbed.—M.E. S.

### Use of Teat Plug.

Please explain use of teat plug.—A. L. C., Gardena.

The teat plug is used as a distender of the duct of the teat when the milk comes out in too small a stream. The plug is greased and inserted after each milking for several days until the teats milk alike. The other use, which is of far more importance, is in cases of injury to the teats. After the outside stitches are placed in the teat to hold the wound together, if the inside of the duct is not distended, it will fill with granulations. The lead plug prevents this trouble. Sometimes it is necessary to enlarge the opening of the teat. This is done with a specially prepared covered lancet and requires considerable skill. The plug again is used to preveut granulation from closing up the opening. This cutting of the teat when it is done close up to the udder is not good practice as the wound is very slow to heal and often runs into inflammation. I do not like the operation and would rather beef the cow than do it. The best way to have a cow's teats and udder perfect is to breed from one of the old established breeds of dairy cattle, as in these breeds the tendency to malformations has been bred away from and the chances are remote of this trouble coming out in the decendants.—M. E. S.

### Seeding Alfalfa.

Is it advisable to grow alfalfa between rows of orange trees? Will it retard growth or harm the trees? How wide a space should be left each side of this strip of alfalfa for clean culture?

What is the best time for planting Valencias and alfalfa?—C. S., Anaheim.

If the trees are young it is possible they would suffer no injury from planting a strip of alfalfa between rows. We have known of this being done in walnut orchards where the trees were young and set 40 or 50 feet apart. The alfalfa did well and no apparent injury resulted to the trees. It must be borne in mind, however, that the orange demands a warmer soil and will stand less wet feet. Therefore if the strip of alfalfa comes very close to the row, tne roots of the orange may get too wet and cold and injury will result. Some of our subscribers who believe in green manuring regard alfalfa as a good manure crop and are going to test it out this fall. After it has been tried out we will be able to give definite information. If you try it you should watch very carefully the condition of your trees and the moment any yellowing or unhealthful appearance is observed, you should plow it up. In such case, it would be advisable to return to the soil any elements that the alfalfa may have removed. The soil would be left fully as rich in nitrogen as before planting the alfalfa, but the other elements would be materially reduced.

Next month will be a good time to plant alfalfa. Valencia oranges should be planted in March or if in section


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Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

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where there is any danger of spring frosts, May would be preferable.

### Sun Flower Seeds.

Have you or any of your readers had experience with sun flower seeds for fattening hogs or turkeys? Would you advise it as good feed?—Amateur, Morganhill.

This is a question that we will pass on to our subscribers for answer. We presume it would be rather expensive as a feed for hogs. For turks, for one element of the feed, it would be excellent and, in fact, is often used. We do not believe it would be advisable by any means to make it a continuous diet, but as a balancer for other grains we think it would be a fine addition to the ration.

### Alfalfa Following Alfalfa.

Please tell me if it is all right to plow up old alfalfa pasture and sow to alfalfa again.—E. F. J., Turlock.

We have heard of cases of alfalfa following alfalfa which has been planted for several years. We would very much prefer, however, to rotate, giving at least one year to clean cultivation to some crop like melons, corn or sugar beets. An old worn out alfalfa field is reasonably sure to be foul with weeds and wild grasses. It would be exceedingly difficult to get a good stand of alfalfa in company with all these seeds. If the inquirer has a dairy, corn could be planted for soiling or for putting in silo. At any rate we would think it advisable to use some crop other than alfalfa if possible.

### Caterpillar of Tiger Moth.

I send you specimen of caterpillar many of which I find on the bases of my orange trees. What is it? I think the queries the most interesting part of the paper and always turn to that department first on opening it.—Subscriber, Highland.

The caterpillar was referred to Mr. S. A. Pease of San Bernardino, who writes:

"The caterpillar is the larva of one of the family Arctiadae,—is a noctuid moth, and feeds upon herbaceous plants, and many species seem to have but little choice of food-plant; but certain common species feed upon leaves of forest trees. Their name is taken from the Greek word for bear. The caterpillars of most of these tiger-moths are thickly covered with hairs, whence they have received the name of wooly bears.

This is as close as I can come to giving you the proper name for it.

### Walnut Grafting—Grafting Wax.

Please give formula for grafting wax. What strain is best to graft on California walnuts? What time of year is best to collect scions for grafting from English walnut trees? When is grafting done?—H. L. D., Stockton.

There are many formulas for grafting wax. We give two, which we presume will be quite sufficient. Two pounds tallow, two pounds beeswax, four pounds resin. The other is: One-fourth pound tallow, two pounds beeswax, two pounds resin, little linseed oil. Melt with gentle heat and when thoroughly mixed it is ready for use and should be kept melted during grafting by setting on a hot brick or a small oil stove.

The best strain for grafting depends upon the section. For Stockton the best information as to strain can be secured from orchardists in that neighborhood. The soft shell which has been such a success in Southern California would be of no value whatever there. The Mayette and Franquette, especially the latter, have proven favorites for that section. There are various strains of these going under different names which would doubtless prove successful with you.

The scions are collected while dormant, but usually as late as possible in the spring, so as to have cut as little time as possible before the grafting.

The grafting is done as soon as the sap begins to flow freely in the spring. Before that time comes, the Cultivator will have articles on walnut grafting which will be helpful to our subscribers.

### Bark Scaling Off.

Enclosed I send portions of bark from an orange tree. I have a number of trees from which the bark is scaling, generally from the trunks, but in some cases from the limbs also. Can you tell me the cause and remedy?—F. D., Azusa.

This query was referred to Prof. R. E. Smith of the Pathological Station at Whittier. He writes: The enclosed does not seem to represent the ordinary scaly bark disease, neither is it typical of the gum disease or gummosis. The latter affects ordinarily only the lemon, being found more rarely on the orange. In typical cases the gumming and separation of the bark occurs only near the ground on the trunk just above the point where the tree was budded. In this disease the bark is separated from the wood, the rupture coming at the cambium or place where the bark and wood come together. Scaly bark may occur at any place on the trunk or limbs and is characterized by the separation and scaling off of the outer bark only, the separation being between the outer and inner bark. There is rather less gumming in this than in the other disease and the gum oozes out in small drops here and there instead of forming large masses and separating the bark from the wood. In the present case the samples submitted do not seem to represent either of these diseases, but I would advise your subscriber to cut off all the affected limbs and form a new top rather than to attempt to treat them in any way.

### Dressing For Canvas.

Please give me dressing to put on canvas to protect it against the wet. What is the cost?—J. W., Reedley.

The best dressing of which we know is hot linseed oil which makes the canvas almost entirely water-

(Continued on Page 311.)


# Classified Liners

Rates 1½ cents per word per issue No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

## MISCELLANEOUS.

THE ANCHOR EGG SEPARATOR works perfectly; no well regulated hotel or household can afford to be without it." So says Delmonico's Chef. Send ten cents or ten names of persons keeping poultry, and we will send one postpaid. Or for 25 names we will also send postpaid "THE POULTRY MANUAL" by those high authorities, F. L. Sewell and Ida R. Tilson, profusely illustrated. WEST COAST MILL CO., 705-709 So. Griffin Ave., Los Angeles, Cal.

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# Household Department

### WHICH WAS THE WISER?

Two men toiled side by side from sun to sun,
And both were poor;
Both sat with children, when the day was done,
About their door.

One saw the beautiful in crimson cloud and shining moon;
The other, with his head in sadness bowed,
Made night of noon.

One loved each tree and flower and singing bird
On mount or plain;
No music in the soul of one was stirred
By leaf or rain.

One saw the good in every fellow man,
And hoped the best;
The other marveled at his Master's plan
And doubt confessed.

One, having heaven above and heaven below,
Was satisfied;
The other, discontent, lived on in woe
And hopeless died.

Sarah K. Bolton.

### BRINDLE COW MIXED UP IN POLITICS.

"IS THERE anybody here," said the stranger, his vehemence of manner being in such contrast to the placidity of his countenance that it was startling, "who can tell me why it is that a fellow citizen's high ambition has got to be sot down onto and the pole star of his existence put in total eclipse because the female sex is vain and man persists in building a smokehouse when he can buy good ham for 9 cents a pound?"

There was nobody present ready with an answer, but the landlord said to the vehement stranger that there was a cheaper hotel up at the other end of town. If the stranger heard the landlord's suggestion it did not appeal to him. He took a long breath and burst forth again:

"Then it's plain to me that the news of Jake Goble's wife's red felt bonnet with the blue rooster tail in it and the smokehouse Bill Hooper built hasn't got over as far as this yet. Has it?"

The news was still due, so they told him.

"Do you want to tell me, then," he exclaimed, "that the news of the pole star of my existence and its total eclipse is likewise as yet unbulletined, so to speak, in this bailiwick?"

They must have wanted to tell him so, for they told him nothing doing whatever in pole stars of anybody's existence.

"And yet," said the man bitterly, "they boast to me that the telegraph and the telephone and the newspaper have sent the sewing society and the quilting bee to a back seat. Bah! Don't you s'pose that if it had been left to the sewing society or the quilting bee that you'd have heard long before this how I went to Bill Hooper almost with tears in my eyes, knowing that he needed a roof on his woodshed and his garden fence jacked up a good deal more than he needed a smokehouse, and pleaded with him not to do it? Don't you?"

No one seemed to care to commit himself.

"Don't you s'pose that if it had been left to them," the vehement stranger persisted, "they'd have spread the news to you long ago that, although Jake Goble's wife did have her heart wrapped all around that red felt bonnet with the blue rooster tail in it, she'd have to unwrap it if it hadn't been for Bill Hooper's smokehouse?"

"I'll say yes," said the landlord, "and if you're waiting for the Pine Island train it goes at 7:07. It's 2:06½ now. My watch is a little slow at that.

The vehement stranger wasn't waiting for the Pine Island train and time seemed no object to him.

"That for your telegraphs and your telephones and your newspapers," he said, with a contemptuous snap of his fingers. "Bah! Why, I'll bet a hen that they haven't got here yet with the news even of how for something like ten years I had pined to be Constable of the Huckleberry Hill. I'll bet a hen they haven't!"

Somebody said something about some folks always being ready to bet on a sure thing, but the vehement stranger did not heed it.

"Yes!" said he, 'and I'll double the bet and throw in a flock of ducks that they are still shy in arriving with the news that for ten years my fellow citizens persisted in lifting someone else to the Constable's office year after year, but rallied as one man at the last election and hoisted me to the place. What takers do I hear for that?"

If he heard any he could hear a pin drop in a boiler factory.

"It wouldn't surprise me, though," said he, "if they had got here with the news before it was half a minute old that some folks make no bones of saying that if Sam Rigby, who was running for Constable against me, hadn't had a stroke election morning and hauled off I wouldn't have been lifted in even that time. It wouldn't surprise me a bit if they got here quick with that kind of news.

The landlord said that it wouldn't have surprised him either.

"But I would be surprised," continued the stranger, "if they had added to it the news that I scorned those folks and their insinuations as I saw myself Constable and that I unbosomed myself to my friends and fellow citizens and said:

"Constable ain't the pole star of my existence! Not by a jugful it ain't! It's only a stepping stone! It's Sheriff next, and then Legislatur'! That's what the pole star of my existence is, and if I don't clutch it I'll eat the greaser!

"I would be surprised, indeed," he exclaimed, "if they had added that news to it!"

Then he paused and pondered a while and said:

'Yes, I told 'em that if I didn't clutch it I'd eat the greaser. I ought to be a man of my word. Have you a greaser in the house?"

The landlord said he had, but it wasn't on the menu that day. The stranger mused a while and then exclaimed:

"But how could I have foreseen Jake Goble's wife's red felt bonnet with the blue rooster tail in it, and Bill Hooper's smokehouse? Some-

body tell me how I could and hear the cash register jingle!"

The man behind the counter looked them over with a show of pleasant expectation that this inducement might prompt some one to some plausible speculative opinion at least, but none was ventured. The man behind the counter seemed disappointed. The vehement stranger didn't. He didn't even pause for a reply, but went right at his subject again.

"And can it actually be," said he, "that I've had to bring the news over here myself that I'm charged with stealing a brindle cow?"

The landlord suggested that maybe the stranger had got twenty-four hours the start of 'em and kept right on going.

"That might explain it," said he.

Not to the stranger's satisfaction evidently, for he ignored it, and snapping his finger contemptuously again, said:

"That for your telegraph and your telephone and your newspapers! Listen to me! When old man Frazer hired Jake Goble to tear down his old barn and take his pay for it in the hemlock boards and stuff that come out of it the eclipse of the pole star of my existence began.

"Two dollars and forty-seven cents was the spot cash price Poly Skiggins, the milliner, wanted for the red felt bonnet with the blue rooster tail in it that Jake's wife had her heart wrapped around; but Jake's wife didn't have the two forty-seven. So Polly said she'd take a quart of milk a day from Jake's wife in pay. Jake's wife said she'd be tickled all to pieces to pay for the bonnet with milk, and she'd do it in a minute only for one thing. She didn't have any cow. Not seeing any way by which she could get around that little obstacle, Jake's wife would have had to unwrap her heart from around that bonnet if it hadn't been for Bill Hooper's smokehouse.

"Bill had given up that smokehouse, not because I had argued with him and shown him how incompatible a new smokehouse was with no roof on his woodshed and his garden fence down flat, to say nothing of his having to buy pigs to get hams off of to smoke in the smokehouse, while he could get good ham already smoked for nine cents a pound—he hadn't given it up because of that incompatibility, but for the sufficient reason that when he came to go ahead with the building of the smokehouse it dawned on him that he had no lumber to build it out of, so he had concluded not to build it.

"But Bill had a brindle cow. Jake Goble heard about Bill and his smokehouse and he went over to Bill's and he said:

"My wife's talking about gettin' up a deal o' some kind with Polly Skiggins, payin' milk for a bonnet or somethin' like that. I've got a snag of hemlock stuff I took out o' old man Frazer's barn, but it won't give no milk. Nor I don't see how you can make a smokehouse out of a brindle cow. I'll swap you hemlock for cow.

"Bill saw the logic of Jack's dicker and fell in with it, but while he was on smokehouse bent he had a frugal mind.

"'My brindle cow is worth $25,' said he. 'Your hemlock ain't worth more than $10.'

"'Free to admit it,' said Jake; 'and easy fixed.'

"The upshot of it was that Jake gave Bill the hemlock and his note for $15 and Bill gave Jake the brindle cow. Bill got his smokehouse. Jake's wife got her red felt bonnet with the blue rooster tail in it. The right lobe of the pole star of my existence passed into the shadow.

"Jake's note fell due. Settling things being incompatible with Jake's disposition, Bill sued on the note and got judgment. I had in the meantime been hoisted by a rallying constituency into the office of Constable of Huckleberry Hill and was on my way to clutch on the brindle cow and posted her for sale. Three days before the sale she got away somehow and was lost. Responsible for her custody, I scoured the county for her, and the day before the sale found the brindle feeding by the roadside six miles from Jake's. I drove her in, glad hearted, and next day knocked her down to the highest bidder. The pole star of my existence, so I thought, was beginning to blaze like the sun.

"Next week in came Farmer Benson, mad all the way through.

"'Nice work!' said he to me. 'Runnin' off my brindle three-year-old and selling her to make good your losin' that eel rack of Jake Goble's, old enough to be her great grandmother!'

"Sure as beeswax, the brindle turned out to be Farmer Benson's, and the citizen that bought her had to give her up and he fell back on me for the money, all paid out and distributed in costs. Then some one found Jake's old brindle dead in Bulger's Swamp and Jake falls back on me to pay for her, because he intended to buy her in at the sale, but didn't when he saw I wasn't selling her. And to top it all Farmer Benson charges me with stealing his brindle cow, and I'm out on bail!

"And now," said the stranger, vehement of voice but still placid of expression, "is there anybody here who can tell me why it is that a fellow citizen's high ambition has got to be sat down on to and the pole star of his existence eclipsed because the female sex is vain, and man, looney man, persists in building a smokehouse when he can buy good ham for nine cents a pound?"

Even yet nobody seemed capable of the answer, and the stranger, pounding the arm of his chair, exclaimed:

"I give notice right now that if there's anybody that wants to put himself in the hands of his friends to be triumphantly hoisted from the humble walks of life 'way up into the office of Constable of Huckleberry Hill he can do it at once, for I've sent 'em word that the pole star of my existence is nothing but a hole in the ground bigger than a Dutch barn, and I've quit!"

No one made responsive comment, but when the vehement stranger went out some one was moved to remark that it beat all what queer things did blow in here since Goshen was connected up with Middletown by trolley.—N. Y. Sun.

---

O, the days gone by!
The apples in the orchard, and the pathway through the rye;
The chirrup of the robin and the whistle of the quail,
As he piped across the meadow, sweet as any nightingale;
When the bloom was on the clover, and the blue was in the sky,
And the happy heart brimmed over in the days gone by!

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Correspondence Invited

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Sept. 22, 1909.

### Butter.

Butter remains as last week. Arrivals are normal and market firm.

**Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.**

| | |
|---|---|
| Creamery per roll | 65@67½ |
| Dairy per roll | 30 |
| Eastern creamery per lb | 30 |
| Cooking | 30 |
| Ladles | 25@26 |

### Cheese.

| | |
|---|---|
| Anchor large | 20@22 |
| Northern fresh | 18 |
| Anchor Young America | 21 |
| Domestic Swiss | 21@23 |
| Imported Swiss | 30@32 |

### Eggs and Poultry.

Case counts have advanced two cents during the week and extras also note slight advance.

**Paying price f. o. b. L. A. are:**

| | |
|---|---|
| Eggs | 41@43 |
| Case count buying price | 38 |
| Eastern | 34 |
| Storage | 32 |

**Dealers pay for live poultry f. o. b. L. A.:**

| | |
|---|---|
| Hens per pound 3½ up | 17 |
| Stags and old roosters | 8 |
| Fryers 2 to 2¾ lbs. | 16 |
| Broilers 1¼ to 2 lbs. | 19½ |
| Roasters 3 lbs and up | 16 |
| Turkeys | 19@22 |
| Geese | 12 |
| Ducks | 12@13 |
| Squabs | 1.25@1.75 |

### Live Stock.

**The following quotations are f. o. b., Los Angeles, on all stock.**

| | |
|---|---|
| Hogs from 175 to 200 pounds | 7½ |
| Prime steers | 4@4¼ |
| Heifers | 3½@3¾ |
| Calves per pound | 5 |
| Sheep ewes per head | 3.75@4.00 |
| Lambs per head | 3.25@3.50 |
| Wethers | 4.50@5.00 |

### Potatoes.

**Wholesale prices are:**

| | |
|---|---|
| Yellow sweets per ctl | 1.50@1.75 |
| Burbank local | 1.25 |
| Highlands | 1.10@1.25 |
| Lompocs | 1.60@1.65 |

### Onions.

**Wholesale quotations:**

| | |
|---|---|
| Silverskins, local | 1.10 |
| Northern Yellow Danvers | 1.25 |
| Australian Browns per sack | 1.25 |

### Vegetables.

| | |
|---|---|
| Artichokes locals | 75 |
| Beets per sk | 90 |
| Beans string | 5@7 |
| Brussels sprouts per lb. | 10 |
| Bell peppers | 3@4 |
| Cabbage, per sk | 80@90 |
| Celery per doz | 50@60 |
| Chili per lb | 3@4 |
| Cucumbers per box | 40 |
| Cauliflower per doz | 1.25 |
| Carrots per sk | 90 |
| Corn per box | 50@60 |
| Egg plant per lb. | 3@4 |
| Green onions per doz bunches | 20 |
| Hubbard squash per lb | 2½ |
| Summer squash per box | 40 |
| Lettuce choice | 1.00@1.25 |
| Oyster plant | 40 |
| Okra per lb | 5@6 |
| Peas per lb. | 5@7 |
| Parsley doz | 25 |
| Parsnips | 40 |
| Radishes per doz | 15@20 |
| Rhubarb, No. Strawberry | 1.50 |
| Rhubarb, crimson winter | 5@6 |
| Spinach per doz. | 15@20 |
| Turnips sk | 90 |
| Tomatoes lugs | 35@60 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 2.25@3.00 |
| Grapefruit | 2.65@3.50 |
| Lemons | 1.50@3.50 |
| Limes, halves | 1.50@2.00 |

### Fresh Fruits.

**Wholesale prices on the market are:**

| | |
|---|---|
| Alexanders | 1.00@1.75 |
| Bellefleurs | 90@1.25 |
| Fall Pippins | 75@1.25 |
| Pearmains Red | 1.25@1.35 |
| Gravensteins | 90@1.50 |
| Casabas per crate | 50@1.00 |
| Cantaloupes Jumbos | 2.00@2.25 |
| Figs | 50@1.00 |
| Grapes lug box | 50@75 |
| Loganberries | 3 |
| Nectarines | 75@1.00 |
| Peaches, per box | 50@75 |
| Pears Bartletts box | 1.25 |
| Plums | 1.00@1.25 |
| Prunes | 1.00@1.25 |
| Quinces | 75@90 |
| Blackberries | 8 |
| Strawberries | 6@8 |
| Watermelons per lb. | 1 |

### Dried Fruits.

**Wholesale prices are:**

| | |
|---|---|
| Apricots | 10@11 |
| Evap apples fy per lb | 11 |
| Figs loose | 5 |
| Peaches | 5@7 |
| Pears | 7@8 |
| Plums pitted | 7@8 |
| Nectarines | 7@9 |
| Prunes | 4½@7½ |

### Beans Dried.

**Wholesale prices are:**

| | |
|---|---|
| Pink No. 1 | 3.50@3.60 |
| Limas per ctl | 4.50 |
| Black eyes | 4.00@4.25 |
| Lady Washington | 4.50 |
| Small White | 5.50 |
| Garvanzas | 4.50 |
| Lentils | 6.00 |

### Nuts.

| | |
|---|---|
| Almonds IXL per lb. | 15@17 |
| Pecans polished | 15@16 |
| Peanuts Californla | 5 |
| Peanuts Eastern | 7 |
| Walnuts No. 1 | 12@15 |
| Walnuts No. 2 | 9@10 |
| Walnuts grafted | 15 |

### Honey.

Wholesale quotations:

| | |
|---|---|
| Extracted water white | 7½@8 |
| Extracted Light Amber | 5½@6 |
| Comb Water White | 15 |
| Comb, white | 12½ |
| Beeswax | 25 |

### Hay.

| | |
|---|---|
| New Barley hay | 8.50@14.00 |
| Alfalfa, local | 11.00@12.00 |
| New alfalfa Imperial | 10.00@11.00 |
| Northern | 10.50@12.00 |
| Wheat hay | 10.00@12.50 |
| Tame oat | 10.00@15.00 |

### Grain.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Wheat new per ctl | 1.90@1.95 |
| Kaffir corn | 2.00 |
| Corn Eastern bulk | 1.75 |
| Egyptian corn | 1.80 |
| White oats | 1.75 |
| Seed Rye | 2.10 |

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Cracked corn | 1.80 |
| Shorts | 1.85 |
| Bran | 1.60 |
| Cocoanut cake | 1.35 |
| Coceanut meal | 1.85 |
| Cottonseed meal | 1.25 |
| Oil cake meal | 1.85 |
| Feed meal | 1.85 |
| Rolled Barley | 1.50 |

## San Francisco Markets

SAN FRANCISCO, Sept. 21, 1909.

### Butter.

Butter market is firm with prices for entire week exactly as quoted last week. A fair supply is on hand and receipts normal.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

| | |
|---|---|
| California extras per lb. | 32½ |
| Cal. firsts | 30 |
| California seconds | 28½ |
| Packing | 25 |

### Cheese.

| | |
|---|---|
| California flats | 14½@15½ |
| Cal. Young America fy | 15@16 |
| Young American Oregon fy | 17 |

### Eggs and Poultry.

Eggs dropped three cents last week and advanced slightly on Saturday and Monday, but are yet a cent or better under last week's quotations. Market firm.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

| | |
|---|---|
| Fresh ranch extras | 40 |
| Firsts | 34 |
| Seconds and thirds | 24@30 |
| Hens per doz | 5.00@12.00 |
| Roosters per doz | 4.00@10.00 |
| Fryers per doz | 5.50@6.50 |
| Broilers | 3.00@5.00 |
| Geese per pair | 2.00@2.50 |
| Ducks | 4.00@8.00 |
| Turkeys | 19@26 |
| Pigeons young | 1.00@2.50 |

### Live Stock.

San Francisco prices gross weight:

| | |
|---|---|
| Steers | 2¾@4⅜ |
| Cows and heifers | 2@3⅜ |
| Hogs | 4½@7¼ |
| Calves per lb | 4@5¼ |
| Milk lambs | 5¼@5½ |
| Wethers No. 1 | 4¼ |
| Ewes No. 1 | 3¾ |

### Potatoes.

Wholesale market quotations:

| | |
|---|---|
| River Whites | 60@75 |
| Salinas | 1.40@1.60 |
| Sweets crates | 1.40@1.60 |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Asparagus per box | 50@1.00 |
| Bell peppers per box | 35@50 |
| Cabbage per box | 2.00@2.25 |
| Caulliflower doz. | 75@1.00 |
| Carrots per sk | 65@75 |
| Cucumbers per box | 25@50 |
| Cucumbers per box | 35@60 |
| Celery, doz | 25@30 |
| Chili peppers per box | 25@35 |
| Corn per sk | 1.00@1.50 |
| Egg plant per box | 40@60 |
| Green peas per lb. | 3½@4 |
| Okra | 65@75 |
| Onions green per box | 50@60 |
| Rhubarb per box for bay | 1.25@1.50 |
| Squash per box | 40@60 |
| String beans | 4@5 |
| Tomatoes | 50@85 |
| Wax beans | 3@4 |
| Lima beans | 4@5 |
| Garlic | 4½@5 |

### Onions.

| | |
|---|---|
| Yellow onions | 60@70 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 1.50@3.00 |
| Grapefruit | 1.00@3.25 |
| Lemons | 1.25@4.50 |
| Limes | 5.00@6.00 |

### Fresh Fruits.

| | |
|---|---|
| Bellflowers | 65@1.10 |
| Gravensteins | 90@1.50 |
| Crab apples | 60@75 |
| Figs blk box | 65@85 |
| Grapes seedless | 40@50 |
| Tokays | 40@65 |
| Malagas | 50@65 |
| Rose of Peru | 50@60 |
| Cornichon | 60@75 |
| Muscats | 50@65 |
| Isabellas | 65@75 |
| Zinfandel and wine grapes per ton | 8.00@12.00 |
| Logans per chest | 3.00@4.00 |
| Cherry plums per box | 25@35 |
| Peaches per lug box | 75@1.00 |
| Peaches per lug box clings | 50@85 |
| Plums boxes | 50@85 |
| Pears Bartletts | 85@1.75 |
| Cantaloupes | 1.00@1.25 |
| Nutmegs per box | 35@60 |
| Pears box | 60@1.50 |
| Pomegranates | 50@1.50 |
| Quinces box | 50@1.00 |
| Blackberries per chest | 2.00@3.00 |
| Huckleberries per lb. | 10@12½ |
| Raspberries per chest | 3.00@5.00 |
| Malindas per chest | 3.00@5.00 |
| Watermelons per doz | 1.00@2.00 |

### Dried Fruits.

| | |
|---|---|
| Prunes 4-size basis | 2¼ |
| Santa Clara | 2⅜ |
| ⅜ cent premium for larger sizes. | |
| Apricots per lb. | 10@13 |
| Peaches—Choice 5¼; Fancy | 8½ |
| Apples evap | 5½@9¾ |
| Pears | 6@9 |
| Figs | 2½@4½ |
| Nectarines | 5@6 |
| Plums | 7@8 |
| Apples | 7½@8½ |

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do, No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12, 3⅜c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached, 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

| | |
|---|---|
| Walnuts soft shell | 12½ |
| Hard shell | 6@8½ |
| Ne Plus Ultra | 12¾@13¼ |
| Almonds '09 N P U | 12¾@13¼ |
| Almonds '09 nonp | 14½ |
| Almonds '09 I X L | 13½@14 |
| Pecans | 15@17 |
| Chestnuts | 2@10 |
| Peanuts | 5@6 |
| Pine nuts | 22½@25 |

### Beans Dried.

| | |
|---|---|
| Limas | 4.15@4.20 |
| Pink | 3.15@3.20 |
| Small white | 4.75 |
| Large white | 3.25@3.35 |
| Black eyes | 3.50@3.65 |
| Red kidneys | 4.00 |
| Garvanzas | 3.25 |
| Bayo | 3.75 |
| Horse Beans | 2.10@2.15 |
| Cranberry | 4.25@4.50 |

### Hops.

| | |
|---|---|
| Hops 1909 crop | 20@22 |
| Hops 1908 crop | 15@16 |
| Old | 4@8 |

### Honey.

| | |
|---|---|
| White comb | 14@15 |
| Light Amber | 10@12 |
| Extracted W W | 7½ |
| Extracted light amber | 6½@7 |
| Beeswax per lb | 25@29 |

### Hay.

Scott, Magner & Miller say

Arlvals of hay for the week have been 4000 tons. The majority of this amount has been made up by extensive arrivals of alfalfa hay, and of medium and poorer classes of horse hay. There have been very few choice lots of hay received here for the last ten days, with the exception of some choice cultivated wild oat hay.

The medium and poorer offerings have been dull, slow, and thoroughly neglected, as there is not much demand for this type of hay. Consumers have become so particular that they do not take up the ordinary types of hay, as they did in former years, and will not buy such poor classes of hay, except under exceedingly attractive conditions.

On the other hand, choice lots of hay have found a ready sale here during the week and toward the end of the week an element of strength was developed on choice wheat hay and choice red oat hay, as well as choice cultivated wild oat hay.

The fields are being rapidly cleared of all good lots of hay, but the other varieties of hay are still in large supply, and buyers are being urged from day to day to make offers on such lots which are still in the field in districts where they are unprotected. It is now getting late in the season, and rains may be anticipated, which fact is making the larger holders of hay still in the fields somewhat nervous.

Alfalfa hay, which has been arriving freely, and the sale of which has not been as active as was anticipated, has shown some weakness, and some little effort must be used in effecting sales.

This week's quotations are:

| | |
|---|---|
| Choice wheat hay | 18.00@19.00 |
| No. 1 wheat or wheat & oat | 17.00@18.00 |
| No. 2 wheat or wheat & oat | 14.00@15.00 |
| Choice tame oat | 16.00@17.00 |
| Other tame oat | 12.00@14.00 |
| New crop wild | 11.00@14.50 |
| Stock hay | 8.00@9.00 |
| Alfalfa | 10.00@13.50 |
| Straw | 55@65 |

### Grain.

| | |
|---|---|
| Wheat No. 1 | 1.70@1.75 |
| Barley | 1.30@1.40 |
| Oats white | 1.70@1.75 |
| Oats gray | 1.67½@1.72½ |
| Rye new crop | 1.70@1.75 |
| Corn Egyptaln | 1.60@1.65 |
| Cal sm round | 1.80@1.82½ |
| Alfalfa seed, Cal. | 16@18 |
| Mustard brown | 3¾@4½ |
| Millet | 2½@3 |
| Flaxseed | 4 |
| Broom corn seed per ton | 23.50 |

### Feed Stuff.

| | |
|---|---|
| Bran per ton | 29.00@30.00 |
| Feed cornmeal per ton | 39.00@40.00 |
| Cracked corn per ton | 40.00@41.00 |
| Rolled barley per ton | 30.00@31.00 |
| Rolled oats per ton | 38.00@41.00 |
| Oil cake per ton | 38.50@40.00 |
| Cocoanut cake per ton | 25.00 |
| Middlings | 36.00@37.50 |
| Mixed feed per ton | 25.00@30.00 |
| Shorts | 31.50@33.00 |

## Citrus Market

LOS ANGELES, Sept. 22, 1909.

The Valencia market is somewhat embarrassed by liberal proportion of off sizes and low grade fruit. There is also a large quantity of grapes and peaches in the far Northeastern market, but notwithstanding these factors, a fair condition prevails. No shading of prices has been noted as yet and the system of distribution is such that it is hoped they will be maintained.

The lemon market is exceptionally strong and all good stock is being taken readily.

**SHIPMENTS.**

Total shipments of citrus fruits since November 1, 1908, aggregate 36,879 cars, of which 30,906 were oranges and 5,973 lemons.

---

NEW YORK, Sept. 20.—Seventeen cars sold. Market strong on regular sizes with advancing prices. Cloudy. Cool.

| | Avge. |
|---|---|
| Sceptre, Sunset Fruit Exchange | 4.75 |
| Planet, Sunset Fruit Exchange | 3.25 |
| Robusta, A. H. Exchange | 2.45 |
| Butterfly, Covina Fruit Exchange | 2.80 |
| Lincoln, A. H. Fruit Exchange | 1.90 |
| Navajo, A. H. Fruit Exchange | 1.40 |
| Pointer, A. C. G., Exchange | 2.50 |
| Hunter, A. C. G. Exchange | 1.75 |
| Green Crown, A. C. G. Exchange | 2.05 |
| Pico, S. T. Exchange | 1.85 |
| Titus Ranch, San Marino Or. | 3.15 |
| Dos Palmas, San Marino Or. | 2.30 |
| El Toreador, San Marino Or. | 1.80 |
| Old Mission, C. C. Chapman | 4.50 |
| Golden Eagle, C. C. Chapman | 3.10 |
| San Rafael, N. W. Bailey | 2.95 |
| Shamrock, Thos. Strain | 4.45 |
| Albion, Thos. Strain, Fullerton | 2.90 |
| Cambria, Thos. Strain | 2.10 |
| Orchard, Nat. Orange Co. | 3.05 |
| Standard, Nat. Oronge Co. | 2.10 |
| Pilgrim, Pioneer Fruit Co. | 3.25 |
| Buena, R. J. Richardson | 2.65 |
| National, Harper Fruit Co | 2.65 |
| Dulce, Harper Fruit Co. | 1.80 |
| Swastika, L. V. W. Brown | 2.70 |
| GRAPEFRUIT— | |
| Orchard, halves | 1.85 |
| Cerrito, halves | 2.50 |
| Plain | 2.70 |
| Robusta | 3.70 |
| Stag | 4.20 |

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BOSTON, Sept. 20.—Cool. Market unchanged. Nine cars sold.

VALENCIAS— Avge.
Ibex, S. T. Exchange.....3.00
Blue C. Covina Exchange, Covina..3.20
Goldfinch, S. S. Ex., El Modena....2.25
Majestic, C. S. Spencer, Orange...2.50
Dos Palmas, San arino Gr. As....2.00
Chief, Haight-Bethel Co.....1.50
Moon, Sparr Fruit Co.....1.45
Rivera, S. T. Exchange, Rivera...2.65
Trans Continental, S. S. Ex. El Mod 2.45
Titus Ranch, S. H. Grwrs. P. Assn.2.95
Dos Palmas, San Marino G. A.....2.35
Gold Coin, C. C. Union .....1.90
El Toro, C. C. Union .....1.50
GRAPEFRUIT—
Cosmos, S. B. Ex., Yerkes Spur....2.10
Cosmos, S. B. Ex., Yerkes Spur....2.15
Crocus, halves, Yerkes Spur.....1.15
LEMONS—
Pet, S. A. Exchange .....2.65
Greyhound, S. A. Exchange .....1.65

PHILADELPHIA, Sept. 20.—Three cars Valencias sold.
VALENCIAS— Avge.
Hunter, A. C. G. Ex., Glendora....2.20
Don Quixote, S. T. Ex., Alhambra..2.00
Golden Pheasant, S. T. Ex., Alham..2.30
Alhambra, S. T. Ex., Alhambra...2.30
California, S. T. Ex., Alhambra...1.70
Tower, Malone Fruit Co., Ontario.2.00

PITTSBURG, Sept. 20.—Cool. Market firm on Valencias and lemons. Three cars sold.
VALENCIAS— Avge.
Ibex, S. T. Exchange, Rivera.....3.35
Rivera, S. T. Exchange, Rivera....2.70
LEMONS—
Palm Tree, A. H. Ex., Arlington...1.55
Airship, V. C. Ex., Fillmore.....2.75
Troubador, A. H. Ex., Arlington...1.45

ST. LOIUS, Sept. 20.—Market strong on large sizes. Weather favorable. Three cars sold.
VALENCIAS— Avge.
Searchlight, S. S. Ex., Orange.....3.10
Gavilan, Riv. Ex., Concrete St.....3.25
Sunset, S. S. Ex., Orange .....2.50
Braeside, Riv. Ex., Concrete St.....2.70
LEMONS—
Blue Jay, O. K. Fruit Exchange..1.90

CLEVELAND, Sept. 20.—One car Valencias sold. Market higher. Warm.
VALENCIAS— Avge.
Stag, A. G. G. Ex., Charter Oak....3.10
Hunter, A. C. G. Ex., Charter Oak.2.30

CINCINNATI, Sept. 20.—Warm. Market steady on oranges, weak on lemons. One car oranges, two cars lemons sold.
VALENCIAS— Avge.
Cal. Orange, Riverside Ex., Riv...2.90
Golden, Riverside Ex., Riverside..2.40
LEMONS—
Royal, Q. C. Exchange, Corona.....1.75
Loma, Limoniera Fruit Co.....2.50
O. I. C., Q. C. Exchange, Corona..1.70

NEW YORK, Sept. 21.—Twelve cars oranges sold. Market is airly steady, but there is an easier tone.
VALENCIAS— Avge.
Tower, Malone Fruit Co.....1.70
Albion, T. Strain .....2.90
Cambria, T. Strain .....2.10
Old Mission, Chapman .....5.15
Golden Eagle, Chapman .....2.95
Eagle Head, I. L. Lyon & Sons....1.80
I. X. L., Benchley Fruit Co.....4.40
Premium, Benchley Fruit Co.....2.95
Superior, Benchley Fruit Co.....2.30
National, Harper Fruit Co.....2.35
Dulce, Harper Fruit Co.....1.85
Carmencita, Semi-Tropic Exchange 2.90
Colombo, Semi-Tropic Exchange..2.60
Robusta, Arlington Heights Ex..2.45
Segunda, Arlington Heights Ex....1.35
Butterfly, Covina Exchange.....3.00
Rossmoyne, E. M. Ross.....2.45
Pico, Semi-Tropic Exchange .....2.35
Titus Ranch, San Marino G. P. A..2.65
El Torcador, San arino G. P. A.....1.90
Aurora, E. Peycke Co.....3.40
Majestic, C. S. Spencer .....2.55
Standard ..... ..... .....1.85

BOSTON, Sept. 21.—Three cars sold. Cool.
Market continues strong.
VALENCIAS— Avge.
Don Quixote, Semi-Tropic Ex., Alh. 2.30
Rivera, Semi-Tropic Ex., Rivera..2.75
Cougar, Covina Exchange .....2.50
Ibex, Semi-Tropic Ex., Rivera.....3.25
Blue C. Covina Exchange .....2.50

The supervisors of Santa Barbara county have made an appropriation to begin reclamation work along the Santa Maria River.

## Veterinary

Answers in this column by Dr. R. T. Whittlesey, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Possibly Abscess.

My registered Holstein bull has been lame in his left hind leg for eight or ten months and now there has appeared on the top of his left hip a large pone of blood half as large as a man's head. His left knee is also swelling in front.—O. P., Porterville.

Cut the "pone" open and clean it out, using a solution of phenol daily in the proportion of one to one hundred. A piece of broken bone or foreign substance may be found in the "pone." There are many things that might make a bull's knee swell. Give it a closer examination.—R. T. W.

### Poor Dentistry.

I had my horse's teeth filled and one tooth pulled. Since then he can hardly drink, taking twenty minutes to drink a pail of water.—Subscriber, Porterville.

You have had a bad job of dentistry. Either the jaw or a tooth has been broken. Have the horse examined by the best veterinarian you can get. You will find this cheapest in the end.—R. T. W.

### Cure for Scours.

My mare has scours badly. She is fed oat hay.—Subscriber.

Make a complete change in feed. Try thoroughly cured alfalfa. Give no water for an hour after feeding, and only a small amount at a time. Mix thoroughly two pounds of French chalk and one-half pound of Gallic acid. Give a tablespoonful in each feed of grain. Increase the dose if necessary.—R. T. W.

**DR. WHITTLESEY'S VETERINARY REMEDIES.**

These are not ordinary mixtures but are from well tried formulas, used in an extensive practice in Southern California for nearly a quarter of a century. Dr. Whittlesey's Sulphur Arsenical Salve for deep fistulous or ordinary chronic, indolent sores such as, "Poll Evil," "Fistulas," "Quitters," "Thrush," "Scratches," "Warts," "Collar sores" or "Sit-fasts," $1.00 per package postpaid. Printed directions. Dr. Whittlesey's Antiseptic Healing Powder forms a coating over raw surfaces, excludes air, flies and floating germs. Makes a cheap and convenient dressing for the many sores that occur to stock on the ranch. $1 full pound can postpaid.

DR. R. T. WHITTLESEY.
Veterinary Hospital, 714 East Seventh St., Los Angeles, Cal.

## UNFAIR COMPETITION.

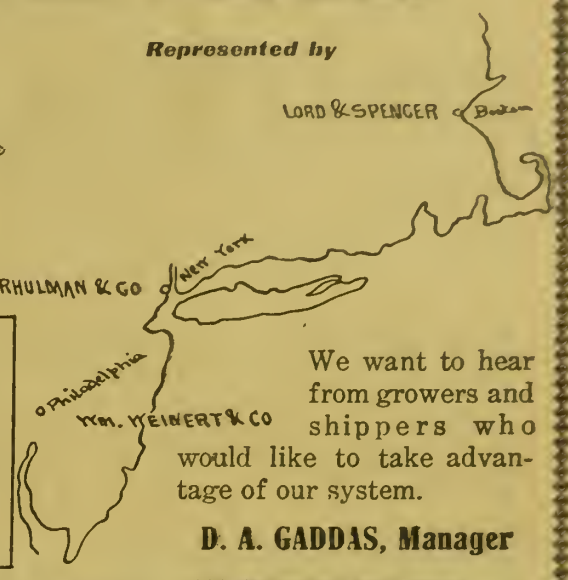
In remitting for another year's subscription to the Cultivator, Mr. P. H. Dreiser of the San Gabriel Floral Nursery refers to the Japanese question as it affects producers, especially in the San Gabriel Valley. Mr. Dreiser says:

"If the effect of the Jap on the fruit and nursery business of the past year can be taken as a criterion for the future, then the Cultivator will not be needed in this valley much longer, for the Japs can cultivate without the "Cultivator" and the American cannot compete with the former because he cannot come down to his standard of living and establish a home and provide a competence for his old age."

This may possibly be true, although we believe the American people will preserve our more beautiful valleys for Americans, but it must be admitted that there have been trying cases where the greatest injustice has been done to the American in this state. This must in time be corrected.

**The Best Markets in the Country**
**are New York, Boston and Philadelphia**
***The Growers Fruit Company send all citrus fruit direct to these auctions***

***Represented by***




No travel-worn fruit that has been seeking a market all over the country, but every car is sent direct, sold in a fresh condition and handled by men who know the markets.

We want to hear from growers and shippers who would like to take advantage of our system.

**D. A. GADDAS, Manager**

**Growers Fruit Company** 111 Stimson Building Los Angeles, Cal.

## Business Notes

### HOW HE SELECTS HIS CREAM SEPARATOR.

The ordinary farmer has no expert knowledge of cream separators, but knows in a general way that they are progressive and beneficial from the fact that their use is growing continuously, especially among the up-to-date dairymen over the country.

The sensible view taken by a hard-headed, intelligent German farmer strikes us as being a pretty good plan for the ordinary farmer to follow.

He says: "I did not know anything about the merits of the machines from an investigation of them myself, because I am not an expert, neither am I an expert in medicine, and I therefore consult a doctor when anything is the matter that I do not understand in regard to myself or family. I therefore looked around and observed that the experiment stations, the agricultural colleges, the majority of the winners in the butter contests and a large proportion of the up-to-date scientific farmers were using the De Laval separator. Now this was as good an endorsement as I could hope for, acting just as these wise men who are experts in their lines and in the dairy business, whose experience and knowledge and wisdom enabled them to select the De Laval. This was all the evidence that I wanted of the value of this well tried and highly appreciated machine, and I bought the De Laval, and am glad that I did so."

This certainly is a very sensible view, and it is always likely to lead one to the right conclusion. You take the experience of the competent and capable man, who is making a success of his business, and the result is you are benefiting yourself by using the other man's experience and without his cost.

We can say to the farmer who is at a loss to determine what machine to buy to take advantage of this sound, sensible, thrifty German and follow his plan, and you will land in the right spot.

### BROWNSBERGER.

One of the most progressive educational institutions of the Southern part of the State is the Brownsberger Commercial College. This college has just added a number of teachers to its faculty. The summer season, which closed September 1, had the largest enrollment in the history of the summer school. The September enrollment is the largest of any fall term to date.

While the college is a California institution, the class which graduated last Spring contained members from nearly every state in the Union, which shows the wide influence of the school.

Pupils graduating from this school readily secure good positions as the name Brownsberger is so well known in the Pacific Southwest that they need no further recommendation. Every boy or girl desiring a good commercial education should write to the Brownsberger Commercial College, 953-957 West 7th St., Los Angeles, for information in regard to the school, which will be sent free if you mention the Cultivator.

### QUERIES.

(Continued from Page 307.)

proof. It is of course liable to cause the cloth to crack if folded when it gets thoroughly dry and hard, but where the canvas is stretched over a frame, linseed oil does the work thoroughly.

### Pumpkin Seeds For Cows.

Will pumpkin seeds fed freely affect the flow of milk?—Subscriber, Covina.

Mrs. Sherman has answered this question in prior issues to the effect that as ordiarily fed the cow will not suffer nor will milk flow shrink. If fed in large quantities it is possible they might so stimulate kidney activity that weakness and possible injury might result, but the seed are rich and as ordinarily fed will do no harm.

### Unfermented Grape Juice.

We have request for information as to manufacture of unfermented grape juice, and refer inquirer to Page 270 of our issue of September 16th which gives a reprint of an article appearing in the Cultivator a couple of years ago.

The meeting called at Garfield last week to discuss the question of the smutting of wheat resulted in the formation of an anti-smut club, the chief object being to lay the foundation for an effective campaign against the pest.

The oldest inhabitant at Greenview, Siskiyou county, has observed that yellow jackets and hornets are thicker than usual and from this he predicts a hard winter.

The winery at Roseville is contracting with grape growers of that section to purchase wine grapes at $15.00 per ton for fifteen years.

90 H. P. "Western" Pumping Water for Western Water & Power Co., Glendora, Cal.

# A Vast Difference

exists between "good enough" and "the best." There are any number of gas engines which are "good enough" for many purposes and people, but only "the best" should be considered for any high class proposition.

The **WESTERN** is the **best** gas engine built on the Pacific Coast, and while the first cost is of course more than that of the very cheap engines, yet it is no more than that of any standard engine, and this necessary difference in price is soon liquidated by the greatly lessened cost of fuel and repairs, after which your engine is a paying investment and a constant source of satisfaction to you.

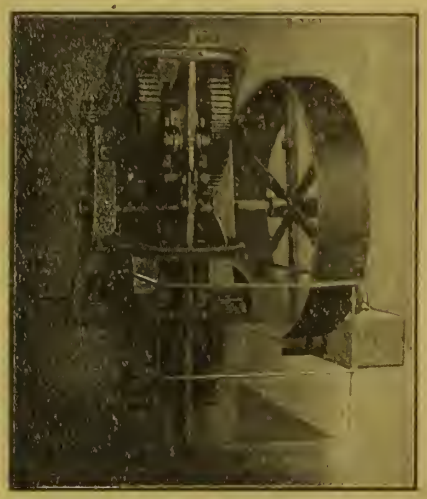
The **WESTERN** saves 25% in fuel cost over other makes, being able—by reason of its special patented features—to develop a horse power hour with the least amount of the cheapest fuel.

With the Nix-Frost Crude Oil Gas Producer (Patented) a gallon of **Crude Oil** has the same power value as a gallon of Distillate. Ask us about it.

## Western Gas Engine Company

**Northern Branch: 461 Market St., San Francisco, Cal.** **Los Angeles. Cal.**

# The Smooth Running, Noiseless Pomona Deep Well Pump



It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

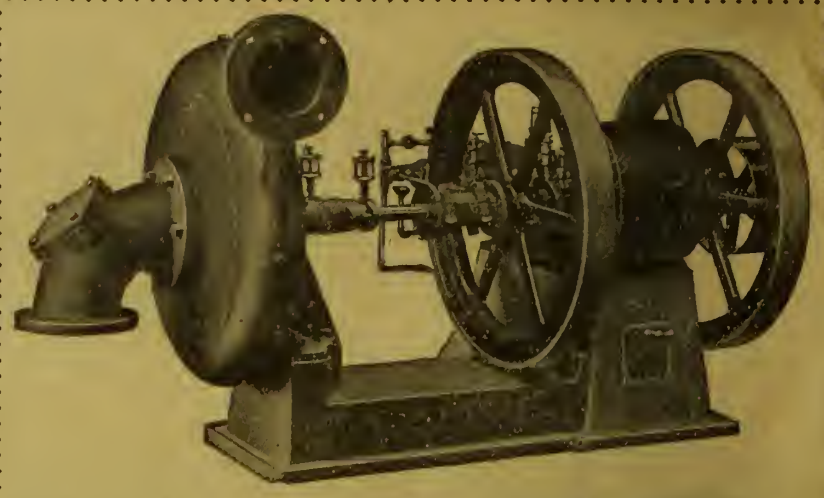
This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.

## POMONA MANUFACTURING CO.

**POMONA, CALIFORNIA**

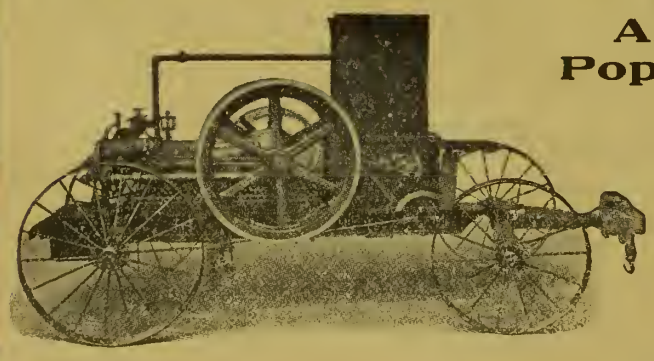


# BYRON JACKSON IRON WORKS

CENTRIFUGAL PUMP DIRECT, CONNECTED TO GASOLINE ENGINE. WRITE FOR BULLETIN 32.

**SAN FRANCISCO** 351-355 Market Street
**LOS ANGELES** 212 N. Los Angeles St.
**SPOKANE, WASH.** **SEATTLE, WASH.**

# Lambert Portable Engines



**Are Popular**

**2 1-2 to 20 Horse Power**

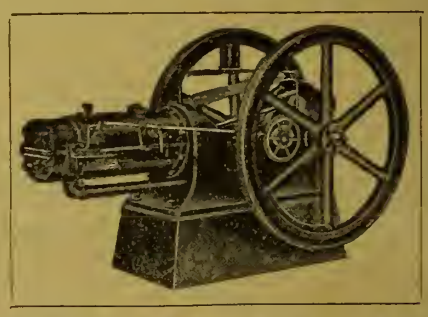
**Because** Guaranteed to develop 10% in excess of rated H. P. Rigid construction and moderate weight. **Costs Less** than others not as good. Balanced centre crank prevents Vibration—most modern and effective cooling system. **We Believe** an inspection will convince you that the Lambert Portable Engine is far superior to any on the market, and we have made a price to get the business.

## Smith-Booth-Usher Company

212-214 South Los Angeles Street Los Angeles, California

# Not too Heavy Not too Light But Just Right

Send for Bulletin No 12.



## COMMERCIAL ENGINE CO.

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# Second Hand Irrigating Plants

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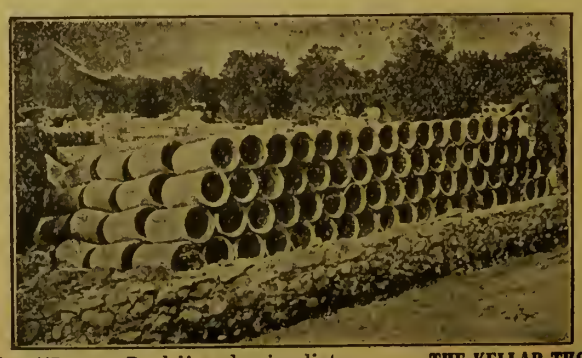

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# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles September 30, 1909 San Francisco


## Pomona Grange at Tulare County Fair

CENTRAL CALIFORNIA claims and we believe with justice, that some of her fairs are fully the equal of the state fair in the matter of interest taken by eitizens and in the quality of exhibits made. A very few of these county fairs are yet largely speed meets, but Tulare claims a genuine agriculture fair. That county boasts of many big things; the mountains ranging her eastern border, the monster sequoias, and the crops she raises, all inspire her people to think big and do big. The fair grounds are not exactly in this category, but are exceedingly well planned, and all the proceedings of the fair have been entered into with such spirit that a most excellent exhibit resulted.

One of the principal exhibits in the pavilion was made by the Pomona Grange of Tulare County, an engraving of which appears above. In this were shown many varieties of fruits and nearly all kinds of agricultural produets. This exhibit won first prize for the largest display in the entire pavilion. There are many granges in Tulare County which is perhaps the best grange county in the state.

Another excellent exhibit near the entrance of the pavilion was made by the Tulare Experiment Station. This station is under the supervision of the State University and has been most helpful to producers in this section in showing some of the products most successfuly grown. Over twenty varieties of wheat were displayed, ranging in production from eighteen to fifty sacks per acre.

The Cultivator representative had the pleasure of placing on the scales one melon exhibited at the fair and seeing it tip the beam at 68 pounds. It was besides an exceptionally fine melon. There were some pumpkins displayed between seven and eight feet around.

The machinery hall was well filled and the large display of

(Continued on Page 321.)

# EVERYTHING FOR THE RANCHER.

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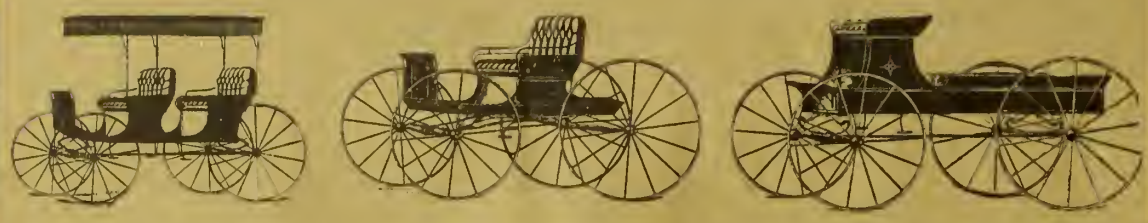

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For Dry Spraying

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Celebrated French

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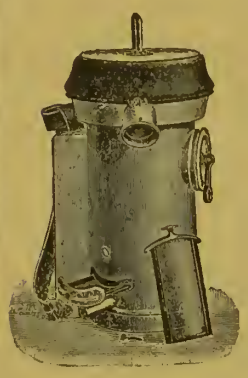

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(Signed) FRED T. BIOLETTI.
Professor, University of California, Berkeley.

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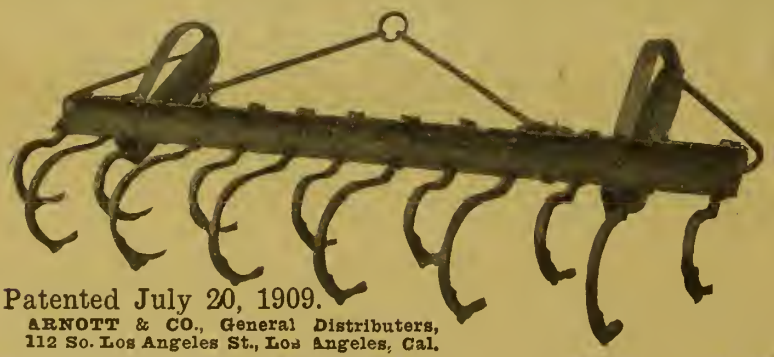

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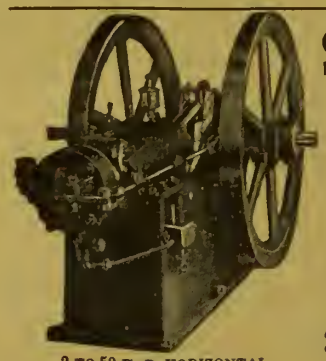

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# California Cultivator

Vol. XXXIII—No. 14 Los Angeles, California, Thursday, September 30, 1909 Subscription $1 a Year


# International Institute of Agriculture at Rome

## Extracts from a Letter Written California Senators by Mr. David Lubin, Formerly at Sacramento and Now at Rome. Mr. Lubin Ably Defends the Work to be Accomplished by the Institute.

SEVEN attacks having been made in Congress on the International Institute which was founded by Mr. David Lubin of this state, he wrote a letter to Senators Flint and Perkins outlining the work of the Institute and the field it expects to cover. From that letter we quote:

"I deem it essential as a preliminary explanation to briefly state how prices of commodities are arrived at. Economists tell us that the law of supply and demand determines the price. But, right here, we must note the difference between manufactured commodities and raw material. The prices of manufactures are largely determined by private sales, whereas the prices of the staples of agriculture are determined by public sales at "wheat pits," "cotton exchanges," "bourses," etc. We are here concerned with the prices of the staples of agriculture, and the question is, How do the exchanges and bourses arrive at the price?

Applying the law of supply and demand, we find that the "demand," so far as the number of consumers is concerned, is fairly manifest, but now let us see how it is with the "supply." Here we are not alone concerned with the stock on hand, but also with the condition of the growing crops.

If the summaries of the supply for the United States—that is, the stock on hand and the condition of the growing crops—were given out only by the operators in the "wheat pits," "cotton exchanges," and "bourses," they would, of course, be given out by interested parties, and would therefore be untrustworthy. Such untrustworthy summaries would give rise to violent fluctuations in prices, endangering not alone the interests of the farmers, but likewise those of the manufacturers, for these products are the raw material of the factories. In other words, they would jeopardize the interests of the capital and labor of the farm and the capital and labor of the factory.

It is for this reason that the United States has built up and now maintains the various bureaus in its Government for the purpose of informing the people at stated periods of the stocks on hand and the condition of the growing crops.

So valuable to the people of the United States is this service that there is now no power which could abolish this source of public information; and, were it abolished, the evils which would follow would be so apparent that its immediate re-establishment would be demanded. Thus it will be seen that the United States Government, by getting out official summaries of the supply, is a factor in the equities of price formation for the staples of agriculture, thereby promoting the welfare of the people of the United States.

The United States is an exporting country of the staples of agriculture. It exports continuously, and the exporters only pay the American producers prices formed in competition with similar products of the other nations of the world. In other words, the exports are sold at the world's price.

But what of the greater quantity remaining for home use? Is this sold at a higher than the world's price by reason of the United States crop-reporting system? How can this be? For the export and the home price are the same, since the exporters and the home buyers buy in the same "pit," "exchange," or "bourse," and at the same time. In other words, all the staples of agriculture in the United States are sold at the world's price.

Now, the question is, "How is the world's price determined?" We stated previously that the "law of supply and demand" determines the price, and that the world's "demand" is fairly manifest. But how does the case stand regarding the knowledge of the world's "supply?"

About this way: Several of the more prominent nations have crop-reporting bureaus which assemble and disseminate the facts regarding the supply in their respective countries, but each of them does so in its own peculiar way. By far the larger number of the nations have no crop-reporting system at all. In those countries the crop reports are gathered by private interests. It is all these sources together which go to make up the various official and unofficial summaries as to the world's supply.

The disseminated summaries are as divergent as are the interests of those who disseminate them.

But is there not a flaw in the logic of the case? In a former paragraph it was stated that the crop-reporting bureau at Washington was performing a task which promoted the welfare of the people of the United States, and now we learn that the United States sells its product at the world's price, and that this world's price is based on the summary of the world's supply, and that this world's summary, whether official or nonofficial is unreliable.

Where, then, do we stand? In this position: The crop-reporting bureau of the United States in a measure benefits the world directly, and the people of the United States indirectly. If the people of the United States are to be fully benefited by their crop-reporting system there must be evolved similar crop-reporting systems in the other countries of the world, for, as Secretary Wilson so pointedly says: "Reports covering part of an area of a given crop may be used by self-interested crop-reporting agencies to mislead." In short, there must be given out at stated periods, and to all the world, an authoritative official world's summary covering the entire area of the crops. Only then will the circuit of information be completed. Only then will the world's supply be known. Only then, when equity in the formation of prices of the staples of agriculture is established, will the United States be fully benefited.

Right here is the need that called into being the International Institute of Agriculture. This is the work it is intended to perform. Its function is to show this need, to get nations to complete their crop-reporting systems, to get them to harmonize the data to the end that the institute may gather from the nations the facts regarding their crops, summarize them, and disseminate them promptly to all the world.

This work the International Institute of Agriculture is instructed to perform by the treaty ratified by forty-eight governments, which is its constitution.

This is the very work had in view by the Department of State in its instructions of September 14, 1908, prepared by the Department of Agriculture and the Department of Commerce and Labor, which outlined "the initial policy of the United States Government in the formative work of the institute."

And now it is in order to deal with the question: "What is the institute doing?" or, as it was expressed in the debate in Congress by Mr. Young, of Michigan: "Does this institution issue a report?" "Does it do any of the work which has been referred to it?"

In reply to the above, I will quote from an official address delivered by the president of the International Institute on May 14 of this year:

The international treaty creating the institute was signed ad referendum by the delegates of the nations on June 7, 1905. The plenipotentiaries of the several governments placed their signatures to said treaty between July, 1905, and June, 1906. * * * The institute was inaugurated on May 23, 1908. * * * The permanent committee has been working since then ceaselessly, but there are many difficulties in the way of founding a new institution, which has the double character of a diplomatic and an economic body. * * *

The institute must obtain an accurate knowledge of the agricultural statistical services in the several countries. * * * It must assemble an inventory of the agricultural resources of the countries and of their average and normal production, which will be of use as a starting point and as a term of comparison for future periodical information

This work the institute has well in hand. There is reason to hope that it will be able to publish within the current year the results of these researches, the importance of which will be obvious to all.

The institute must accomplish another and more difficult task.

It must get all the governments to observe uniformity in the following particulars:

(a) The number and nature of the data supplied by each country for each staple.

(b) The date and mode of stating for each staple, the estimated yield in a percentage ratio of a term of comparison, which should be identical for all the countries.

(c) The interval to be decided on between the getting in of the harvest, the preparation of the statistical reports, and the publication of same.

(d) The indication of amounts by either weight or measure. * * *

The first difficulties have been overcome; the statutes of the institute have been approved; the bureaus are organized; the preliminary studies are accomplished; the work has begun. I hope * * that the institute will be in a position to begin its regular official service in January, 1910.

Before anyone can say that it is not they must show that there is no need for an authoritative world's summary of the staples of agriculture; that, under the present system, and

(Continued on Page 324.)

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# Citrus and Sub-Tropical Fruits

## A CALIFORNIAN IN FLORDIA.

AT THE recent meeting of the Lemon Men's Club at Fernando, Mr. J. A. Reid of the Semi Tropic Fruit Exchange gave a short talk on his experiences in Florida from which we quote:

"The Florida growers asked me to come down and explain something of the workings of the California Fruit Exchange. I told them that they had everything to gain and nothing to lose by co-operation, that co-operation had made the Southern California growers what they were. I found in Florida no system of distribution. Some of the big growers there realize higher prices for their products than any grower can in California. These were, of course, the men who had taken the very best of care of their groves. As an average, the better class of growers in Florida are ahead of us in fertilization. Some of them put on 70 to 75 pounds to the tree instead of to the acre as we do here, and get results, and their orchards show the care that has been taken of them.

"Soil conditions there are entirely different from ours here. In fact, all their conditions are different. They have rain at the time we have our dry season. The week before I reached Florida, they had had one of the greatest rains in many years. By the official records it rained 37 inches in forty-eight hours. During the summer it rains nearly every afternoon, and they have frequent thunderstorms. Because their conditions are so different, they can not irrigate as we do. For one reason, their soil is so sandy that it will not hold the water. They usually have a rainfall of 60 or 65 inches. Now they are figuring on trying to put in irrigation plants so that if they get a dry year of only forty inches they can put water on their trees.

"I visited the grove of one man who was installing a $25,000 irrigating plant. Beside every orange tree was placed an upright pipe from which the water could be sprinkled on the tree. It would do them no good to irrigate as we do. The only irrigation they have of vegetable or citrus crops is by something in the shape of pipes that spray the water out in a manner as near as possible to the natural rainfall. This is because the soil is as a rule so very sandy. It is not adapted to lemon growing and they admit it.

"At a fruit stall in Florida I paid ten cents for five little foreign lemons. I asked the Italian dealer if he ever handled California lemons, and he said no, that he had seen California lemons once in New Orleans, but didn't like them because they were decayed. He said that the lemons came from Italy in better condition. It is of the utmost importance that the fruit be picked and packed so that when a man buys it he will buy a box of lemons and not a box of rot. The growers who have been successful are the ones who have taken care in the picking and packing of their fruit so that it arrives in good condition. That is the great secret of the success of those who have made good in the business.

"The country in Florida is largely undeveloped. They have beautiful fresh water lakes and springs although the country is only a little above sea level. Many of the springs are amber colored from the roots of the palmettos. They always speak of their orange orchards there as groves. These groves are of two kinds, those made on hammock lands, and those planted in the sandy pine woods. You will find here and there through the pine woods a little spot of clear land where five or ten or fifteen acres is planted to oranges. This is only in places where the sand is underlaid by a clayey sub-soil. Without this clay sub-soil they could not grow. The hammock land is the low, swampy marsh land. The palmettos are cut out, and leave the richest kind of soil for orchards. This soil produces the quickest and best. Trees there grow more rapidly than ours. They will be as far advanced in three years as the majority of our trees at five years. This is because of the damp warm climate and the abundance of rain.

"Their oranges are now clean except that some are badly infested with white fly. They have had all kinds of scale and have successfully fought them all but the white fly. They have a fungus now that they think will help to destroy it, but have appealed to Congress to let them have an expert to go to South China to investigate as to conditions and methods there in order to find the natural enemy of this pest. They say that the Government was to blame for introducing the fly into Florida and the Government should find the means of destroying it. One great drawback there is that they have so many chinaberry trees which are the natural breeding place of the white fly, and this pest is the greatest multiplier ever heard of. They do a great deal of spraying, spraying three times a year. It generally costs eight, twelve or fifteen cents a tree for spraying and they spray three times a year, so their bill for spraying is no light one. I told them they could get better results from fumigation.

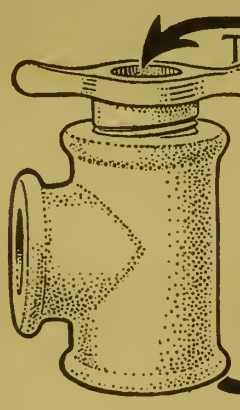
"There are two classes of growers; the old cracker class whose fathers made enough out of their groves to live on—even if they made nothing out of their oranges, they could make a living out of the sweet potatoes that they planted between the rows—and as a rule, they do not have much interest in studying new methods, though some of the younger generation are showing a willingness to take up with the new ways; then there is a large class of Yankees who have come in recently and are putting in business methods and studying conditions. When a grove is sold there, the value is figured, not on the number of acres, but on the number of trees.

"The best growers in the state are to be found as directors and the foremost men in the exchange. The men who came out to Califonia got a little idea of the exchange system in California, but they know nothing of its inside workings or details. They have now signed up fully one-half of the growers of the state on a five year's contract through the Florida Citrus Exchange. They are going to adopt the same methods of distribution now in use in California. While I was there, I learned something of the value of our exchange, particularly in regard to distribution, when I compared our methods with their entire lack of system.

"In conclusion I told the Florida growers that the orange growers of California are interested in them from a business standpoint. In two years Florida has increased its output from three to six and a half million boxes and many young orchards are coming into bearing. If they would organize and properly distribute their fruit, they would get good results, and we could come into the market when they were through with it, and also get good results."

## USING THE SIMPLE ELEMENTS OF PLANT FOOD.

THE WHOLE subject of plant food is a simple one. Air and water contribute the elements which make up the largest percentage of most agricultural plants—other elements, such as calcium, magnesium, iron and sulphur are used by plants in such small amounts and are contained in all ordinary soil in such large amounts, that they are practically never exhausted from the soil. The productive capacity of all soils is measured by the available supply of three elements, nitrogen, phosphorus and potassium. These are the elements which are present in most soils in a comparatively small amount and yet are absolutely required by all agricultural pants in a very considerable quantity. When the soil contains a liberal and well-balanced supply of these three elements, it is called fertile. Every crop removes from the soil large quantities of these ingredients and a continuous cropping will in time, exhaust the most fertile soil. Therefore, the fertility of the soil can only be maintained by preserving good physical

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conditions and by maintaining the supply of nitrogen, phosphoric acid and potash.

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These ingredients may be purchased: phosphoric acid in the form of ground bone and potash from some of the various salts from the mines in northern Germany. While there are several forms of nitrogen the best and cheapest is nitrate of soda. Nitrate of soda, which resembles coarse salt, comes from South America, and is imported in bags usually weighing 225 pounds. It carries about sixteen per cent of nitrogen and this, in the form of nitrate—the form in which it can be taken up immediately by the growing plant. Carrying as it does, such a high percentage of valuable nitrogen, and that in a form so readily available, puts it at the head of all nitrogen carriers.

Fertilizer manufacturers put out numerous brands which are called "complete fertilizers" because they contain the elements nitrogen, phosphoric acid and potash in various proportions. On account of the difference in requirements of crops in the composition of soils, it is very difficult to make a complete fertilizer. Many of the successful farmers are buying the elements, or "simples" separately and doing home mixing. Many of the so-called fertilizer manufacturers are simply mixers and the farmer can not only save money by buying the "simples" and mixing them himself, but he can compound mixtures exactly in accordance with the requirements of his soil.

**How Applied.**

Much of the profits from the use of commercial plant food depend upon the time and method of application. When planting crops it is desirable to apply the fertilizers before the seed is put in the ground, or at the same time if a drill is used. Grain drills are made with fertilizer attachments, so that both grain and fertilizer may be applied at the same time. Besides these combined drills there are a number of fertilizer drills on the market, which a farmer can use in applying his plant food, some drilling into the ground, another distributing on top. When the last named is used, this should be followed with a light harrow to mix the fertilizer well with the soil. Mixtures of super-phosphate, sulphate of potash and nitrate of soda will feed through almost any make of fertilizer drills.

Because it becomes lumpy and rather moist, some difficulty may be experienced in feeding nitrate of soda alone through a drill and it is then necessary to sow broadcast by hand, after first turning the nitrate out on the floor and breaking the lumps by using the back of a spade or shovel.

Sow a bushel of nitrate to the acre—that's a fair application—for grass, barley, etc. A bucket of 25 pounds will sow a strip 47 feet wide and 233 feet long. When sown on grasses, meadows and wheat, it will have to be used as a top dressing. It is not advisable to sow it when the grass blades are wet with dew or rain, since the nitrate will stick to them and thus do them some injury. In the orchard or vineyard nitrate is a very necessary element since it promotes a growth of new wood and insures healthy and luxuriant foliage.

**It Pays.**

Phosphoric acid and potash are

(Continued on Page 335.)


# The Shape of a Plow

from the share-point back a third of the way across the mould board determines whether it pulls heavy or light. Three-fourths of the friction comes on this part, and this part of a John Deere plow bottom is shaped to split the ground like a thin wedge splits a stick of wood—that's one reason why John Deere plows are easy on your horses and economical for you—why the John Deere is the lightest draft plow in the world—and why there are more of them in use than any other three makes combined. We sell the John Deere plows, and carry a large stock of farm machinery. We want your business.

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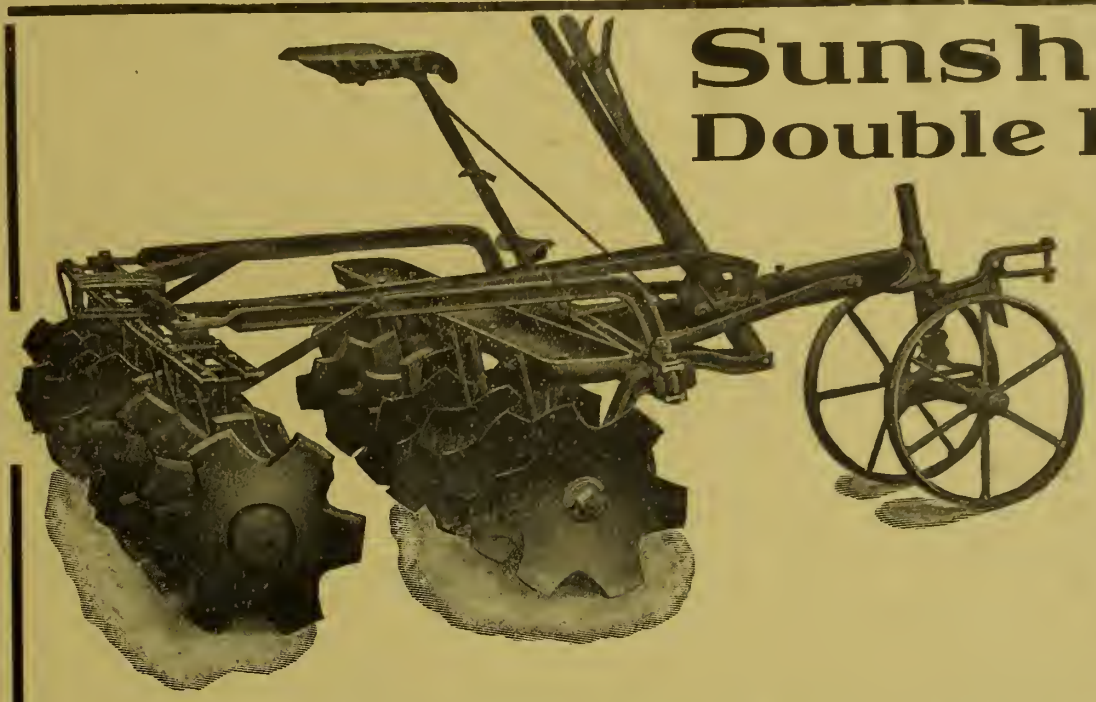

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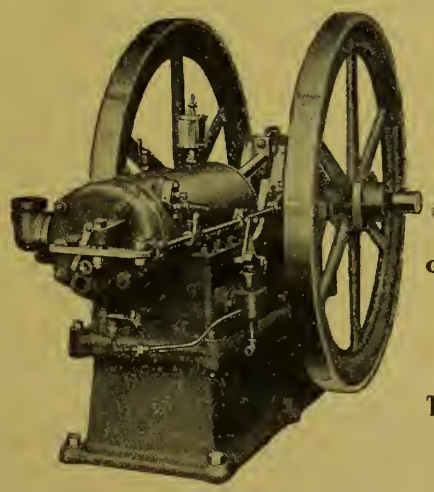

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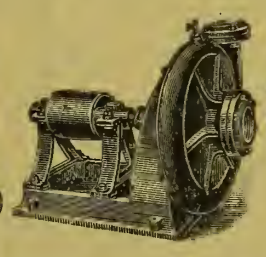

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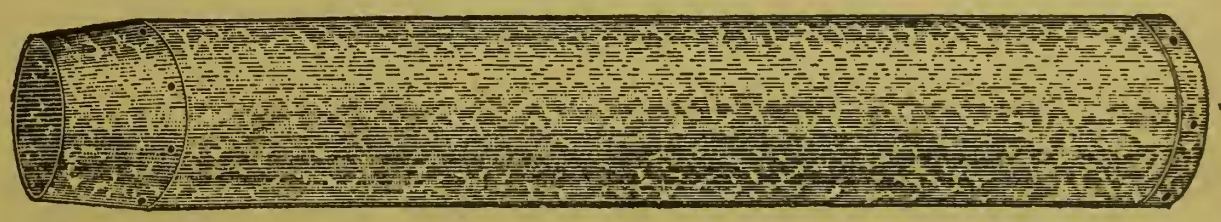

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# Deciduous Fruit Culture

### "PROCESSING" PRUNES.

It is stated that there is considerable diversity of opinion in the Santa Clara valley on the best method to use in drying the prune crop. The "old" methods consisted in taking the prune as soon as it was picked and treating it with a solution of hot water and lye, then rinsing it in cool water and finally placing it in the sun to dry. The "new" method consists of treating the prune with lye, then, without rinsing it off, running the prune over a surface of sharp needles, which make small holes in the skin of the prune, which lets the gas escape while the fruit is drying, thus preventing what is known as "bloating."

In recent seasons there has been a large carry-over of cured fruit every year, and not only this, but prices have sought a very low level.

This has led to cheaper handling methods, and, as necessity is the mother of invention, the pricking-board came as a necessary adjunct in all driers and ranches where prunes were handled in a large way. And now, with the old method of rinsing discarded, complaints have become quite general that our prunes do not carry over as well as they used to.

This fact is well known to all large handlers, but somehow nobody has attempted to discover the reason for the change that has gradually crept over the situation.

Everybody associated with the conditions has had more or less trouble, and every one had a different excuse to offer for the state of affairs. The real cause of the prunes spoiling was discovered only by accident. We happened to buy a carload of prunes treated the old way, which, on account of the abrupt ending of the season, was carried over.

The following year the prunes sold to Eastern parties, and immediately the Eastern buyers wired a duplicate order, thinking that a new car of prunes instead of old fruit had been shipped to them.

This naturally led to a study of the situation, and when a purchase was made during the latter part of the season of prunes actually lye-dipped and rinsed, the fine keeping qualities of the fruit stood out in bold contrast to the fruit prepared by the easier method to such an extent that everybody that saw the fruit became convinced of the inferiority of the new method. Of course, under the new way, where no rinsing is done, the lye is left on the prunes, and the small holes made by the pricking-board allow the juices of the fruit to ooze out, and since lye has a strong affinity for moisture, a crust is formed on the outside of the prunes, and crystals of dried juice and lye render the prunes easy prey to the fermenting evil.

Professor Colby of the University of California has made a microscopic examination of the fruit prepared by the old as well as by the new way, or pricking-board process, and in the written opinion which he has handed in to the Dried Fruit Association of California he strongly advocates that the pricking-board be abandoned and the old lye method resumed, in connection with the rinsing kettle, under an arrangement whereby fresh water can either be kept running or the rinsing vat be emptied frequently, insuring the greatest possible cleanliness. At the same time the water should be kept boiling, so that the prunes would be still hot when they are taken in the sun to dry. This, the professor claims, will prevent what is generally termed bloating, as the flesh directly under the skin of the prune will be cooked. This will make the product uniform and sound, and will do away absolutely with spoiled fruit, except in rare cases where the seed has some ferment in it, which no amount of external preserving can prevent. This feature can be eliminated, however, if the product is properly handled in the beginning.

In a nutshell, the basis of all of our prune trouble lies in the fact that the fruit is not rinsed, and the pricking of the fruit allows the juice to ooze out and cause trouble.

The gas can be let out through the skin if the prunes are properly "chapped" with strong lye, which only cracks the outer skin of the fruit and leaves the inner membrane unhurt; the juices are retained and the prune keeps an indefinite length of time.—San Jose Mercury.

### MAKING CIDER VINEGAR.

When apple juice is left exposed to the air, it is gradually changed, losing its sweet taste and giving off bubbles of gas more or less vigorously. The most prominent change is in the conversion of the sugars into alcohol and carbon dioxide gas. This change is shown as the alcoholic fermentation, and is caused by a vegetable ferment, or an enzyme, which is produced by ordinary yeasts. Cells of the yeast plant are so widely distributed that they get into apple juice abundantly under ordinary conditions.

Theoretically, we should be able to get from 100 parts of apple juice about fifty-one parts of alcohol. In actual practice, we are not able to obtain this amount, because some of the alcohol is lost by evaporation and some is lost by certain chemical changes that take place along with the alcoholic fermentation. In general, we may expect that in the usual fermentation of apple juice, forty-five to forty-seven parts of alcohol will be obtained from 100 parts of the sugars of apple juice.

It may be mentioned that in freshly expressed apple juice, prepared from sound fruit, I have never been able to find any alcohol. Sweet cider is, therefore, a strictly temperance beverage; but, perhaps, not every one could be trusted to tell just where the dividing line is between "sweet" and "hard" cider.

The rapidity of alcoholic fermentation depends largely upon temperature. In ordinary cellar storage, at a temperature of about 50 F., it takes about six months to convert the apple juice sugars entirely into alcohol. At a temperature of 75 to 85 F., this time can be reduced one-half or more. The higher the temperature the more rapid is the fermentation. There is one serious objection, however, to temperatures above 75 F., and that is the loss of alcohol by evaporation. This is favored also by the rapid escape of gas when the fermentation is very vigorous.

After alcoholic fermentation is completed, another change takes place—the alcohol is converted into acetic acid, and the final object of the vinegar maker is the production of acetic acid. This change is brought about through the agency of micro-organisms, called acetic bacteria, these being entirely different from those that change sugars into alcohol.

For the effective conversion of alcohol into acetic acid or of cider into vinegar, there are needed: (1) acetic bacteria; (2) an abundant supply of air, and (3) a temperature of between 65 and 85 F.

There is commonly noticed in vinegar a very elastic, slimy, tough, transparent skin of a yellowish-white color; this skin is commonly known as "mother" of vinegar. This appears to be formed by the growth of the acetic bacteria on the surface of the liquid. When one skin has formed, it settles sooner or later and in its place another is formed, and this formation and replacement continue as long as air is supplied under favorable temperature conditions and as long as unchanged alcohol remains.

The chief change that takes place in the acetic fermentation of alcohol is the taking up of oxygen by alcohol, which is thus changed into acetic acid. Hence air is an absolute essential.

Acetic fermentation as usually conducted by farmers, takes place much more slowly than the alcoholic, often requiring eighteen months, and in some cases two or three years. The most satisfactory results of acetic fermentation have been obtained by us at temperatures between 65 and 75 F.

The following is a practical method of inoculating cider with acetic bacteria. When the alcoholic fermentation has stopped, which, under favorable conditions, should be in one to three months, the cider is placed in barrels, filling half full and then adding one-fourth volume of old vinegar. Mother of vinegar is then prepared as follows and added: Expose in a shallow, uncovered crock or wooden pail a mixture of one-half old vinegar and one-half hard cider at 80 F. In three or four days the surface should be covered with a gelatinous coating, which is "mother" of vinegar. A little of this carefully removed with a wooden spoon or flat stick should be laid gently on the surface of the mixture of cider and vinegar prepared as described above. Do not stir it in, because the acetic ferment grows only on the surface where it can have an abundant air supply. In three or four days the coating should spread itself over the entire surface. This coating should not be broken or disturbed as long as the acetic fermentation is going along satisfactorily. When this method is followed the vinegar should be complete and marketable in one to three months after the alcoholic fermentation is finished.

In this connection we may mention also vinegar-eels, which are so un-

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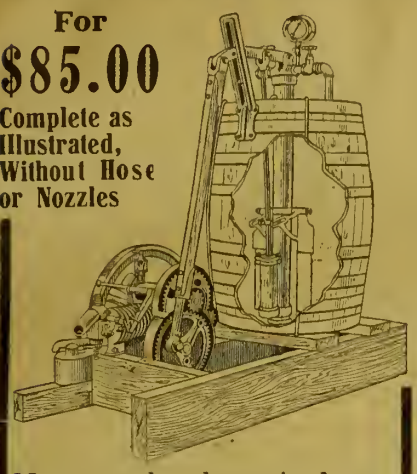

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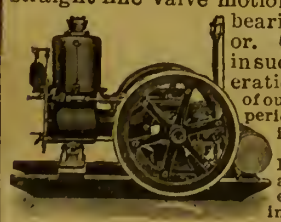

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pleasantly common in many home-made vinegars. They are produced by the small flies that infest exposed or decaying fruits. One method of keeping them out is to keep the apple juice from continued exposure. The placing of a loose cotton plug in the bunghole of the barrel in which fermentation takes place effectively keeps out the flies after the juice is barreled. When vinegar is found to be badly infested with eels, the only safe remedy is to heat the vinegar to 185 F., not above this, and strain, cleaning and steaming the barrel before replacing the vinegar and keeping the bungholes closed. Vinegar eels, besides being offensive to consumers, cause the vinegar to deteriorate sooner or later.—New York Exp. Sta. Bulletin.

## OLIVE MILL AT OROVILLE.

In our news notes in issue of Sept. 9th the Cultivator referred to an olive mill to be constructed at Oroville. It seems that Oroville already has one of the finest mills in the country and to correct the item Mr. N. B. Crane, secretary of the Chamber of Commerce of that city writes:

"In your issue of the Cultivator of Sept. 9th in your 'News Notes' of Northern California, I notice the last local in the column reads, 'The olive crop at Oroville, Butte County will be larger than usual this year and efforts are being made to have a large curing plant at which an expert shall be in charge of pickling.' That a false impression may not be entertained by the many readers of your valuable paper I wish to make a correction of the above local, and hope you may find space in which to print it.

"The facts are, that while we are going to have a good crop of olives, and of the best quality, the output will not be as great as in previous years. Butte County is becoming better known each succeeding year as the natural habitat of the olive. The olive district is not confined to Oroville, but throughout the whole county up to an altitude of 2000 feet, and olive oil and pickling plants are in every town and hamlet in the county. Here at Oroville we have the largest olive pickling and oil plant in the United States, if not in the world, as well as other smaller ones. Our olives are pickled ripe, and our pickles and oil have taken gold medals at all the Expositions in the United States, and at Paris, over all European competition. Our ripe Mission olive is considered the finest grown, and at the present time some of the largest pickling and oil plants of Los Angeles obtain their choicest fruit from this section, having many of our largest olive groves under contract, picking the olives and carrying them to Los Angeles in large tanks containing solution, where they are processed and placed on the market as Los Angeles olives.

"I also note in the same column that the Butte County orange crop will be very light. Allow me to correct the item by saying that our crop will be much larger than last year, and of the very choicest quality of fruit."—N. B. Crane, Oroville.

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A new agricultural empire which is said to rival the great Gunnison project in Colorado has been begun in Colorado. It is proposed to irrigate 125,000 acres of arid land. The contract calls for the expenditure of about five million dollars.

## BY-PRODUCTS OF THE APPLE.

In the present days of science it is entirely wrong for the producers of any of the soil products to allow anything to waste. On the contrary every effort should be put forth to take care of every portion of a crop to the end that the greatest amount of money may be realized from it.

In these days of modern machinery there is so little labor to actually saving every particle of crude product that it would pay every producer to look well into various modes, in use, of producing the popular by-products. Of course it takes a considerable time to acquaint the growers and producers with the many items that they can employ in the making of these valuable by-products and there is room for much to be done along this line.

There is no fruit produced that offers so many inducements to care for the by-products as does the apple. It is exceedingly strange that more growers have not taken advantage of the opportunities that are offered to glean a large reward for their labors. There are so many by-products that will bring a big price that an investigation should be made by every producer.

It is not so much what one makes, but what one saves that makes him rich. The by-product is a saving and therefore the item in the receipts account that is going to make rich apple growers.

## PROPPING APPLE TREES.

It does look a little behind the times to see apple trees propped up as they soon will be in all our irrigated districts. It is the old-fashioned way of growing fruits in this country of heavy yields and even at that the system is all wrong. No one who pretends to be an up to date orchardist has any business propping up his trees. They ought to be so trained and pruned and the crop so thinned that propping is unnecessary. It is a reflection on the care the orchard has received if props are found under the trees.—Field and Farm.

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A large pocket knife kept very sharp is a good instrument for carrying while working in the orchard. With it one can cut out small branches and do a vast amount of good pruning that will save much work later. With the big blade of a large, sharp pocket knife a branch nearly an inch in diameter may be easily and quickly cut off. To perform this operation, pull the branch to the tree with one hand and cut with the other. The bending of the branch makes the cutting easy. Let the cut be clean, leaving no stub, or only a very short one.

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Branches of pear trees that have been killed with blight should be cut out and burned. When they are promptly removed the remainder of the tree not infected will assume vigorous growth and produce a heavy crop of good fruit. A pear tree with more than half of the large branches killed by the blight may be saved in this manner and become a perfect, healthy tree.

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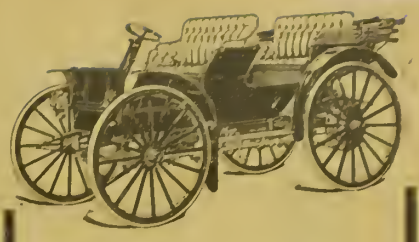
The Pioneer Fruit Company at Lindsay claims to make the first shipment of citrus fruit from that section this season. The shipment consists of seedless limes, a fruit of comparatively recent introduction.

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# Live Stock and Dairy

Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

## COW TESTING.

By Mrs. M. E. Sherman.

IF YOU are tugging away at the business end of a cow, the idea that there is not a great fortune in the work has come to be fixed in your mind. Dr. Cook has discovered the North Pole and has been able to do this by having a dairy to support the wife and children while he went exploring. Surely, the fact that some one can make money at dairying is demonstrated. Why does the average California dairyman make so little money? Untested cows that are not producing their full share in the herd; further the lack of system in the feeding. If a man is to be paid to do the milking, then it is important that the cows be fed for production. As to the feeding, this must be done according to the markets, one feed may be dear, another may be cheap. I am at present putting in some dried brewers grains for the cows. As the alfalfa hay is short this season these grains will balance up the corn silage to a nicety. They afford as well a cheaper supply of protein than bran.

**Cow Testing.**

The cow testing is best done in the ordinary dairy by having the expert make a monthly trip to the herd. Coming in time for the evening milking and then again in the morning he takes samples, runs them through the Babcock machine, writes the results in the book and the next month does the same. In twelve months, there is a complete record of the cow production. The wages and board of the milker and the amount paid out for feed are added up as expenses. I also add the money paid for insurance and taxes and fifty cents a month for pasture. Divided by the number of cows in milking, the result shows the cost per cow. Then add up the cow's side, giving her credit of $5.00 for her calf to balance the time she is dry. If she pays, keep her, if she does not, sell her if reasonably good, giving her record, as a family cow. This, however, should not be done if she has not produced 225 pounds of butter in the year. If she has not she should go to the butcher as beef.

**Clever Boys.**

The clever boys of a neighborhood could use their Friday afternoons and Saturday mornings for testing and as it is usual to pay $5.00 each time for a string of 30 cows, it would be more profitable than cleaning front yards or cutting grass. Where men regularly follow cow testing as a business they charge 50 cents a cow and the owner furnishes the Babcock machine and the acid. While it may seem useless to those who have not tried it, to test cows, I will be willing to say that not once in ten times can a milker or owner guess the best cow in the herd. They are often very much deceived in the cows, by the flashy milker that shows up well for a few weeks, and then drops away down in her milk. The cow apt to be profitable is the cow standing aside, but pegging away, day after day, at the same good average. It is just the same with people. The one that works a regular number of hours every day, does more work than the one that makes desperate breaks of work up to twelve and one o'clock at night and then lies in bed for a week in the morning to catch up the lost sleep.

**Iowa.**

This State has an appropriation of $20,000 available in the next two years for advancement of dairying. It is thought, some at least, of this money will go to sending an expert around to the dairymen to test cows and train them in the work of keeping the accounts. Some of it will also be spent in work on the crops that are most desirable for the dairyman to grow. The best way to use these crops with the limited amount of labor available, is a problem not as yet touched by the experiment stations.—M. E. Sherman.

## PURE BUTTER CAMPAIGN.

The Pure Butter Protective Association of Pennsylvania is making a campaign against the sale of oleomargarine as butter.

A united and determined effort will be made when Congress convenes, to secure proper remedial legislation. It is a well-known fact that in nearly all sections of the United States, oleomargine is palmed upon unsuspecting consumers, in immense quantities, as and for genuine butter. In other instances, unscrupulous dealers will violate all oleomargarine laws in the most flagrant manner, by ignoring the regulations regarding the selling and marking of packages, coloring of oleomargarine, etc., and it is believed that the time for marked changes in these defective laws has arrived.

The Pennsylvania State and subordinate granges, Pennsylvania Pure Butter Protective Association, Pennsylvania Department of Agriculture, including the Dairy and Food Division, and various other State and County agricultural organizations, unitedly took the initiative steps early last spring to secure these much-needed changes, and a committee representing these various active organizations employed the best legal talent available to formulate a proper National Oleomargarine Act. It is probable that the Honorable Boies Penrose, of Pennsylvania, will introduce the proposed oleomargarine bill in the Senate during the early days of the next session.

The association says:

"This movement does not represent any spirit antagonistic to oleomargarine. Our people do not object to its manufacture and sale by licensed dealers who will sell it as oleomargarine, under legal restrictions; but they strongly protest against its sale as and for genuine butter."

It is recommended that every dairyman personally write his representative and both senators in effect similar to this form:

Senate, Washington, D. C.:

"Dear Sir: Certain Federal laws which govern the manufacture and


**Cream Separators, all sizes, and prices. O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

**Anthrax Cure, Milk Fever Outfits See O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

**Big Contrast**

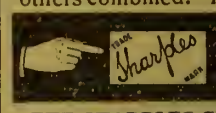
You would not bother with a cultivator that had 40 to 60 useless shovels.

**Then why bother with a disk-filled cream separator, with 40 to 60 useless disks in the bowl, when the Sharples Dairy Tubular has nothing in the bowl except the piece here shown on the thumb?**

The only piece in Dairy Tubular Bowls

52 Disks from one Common Bowl.

Sharples Dairy Tubulars are the only modern, simple, sanitary, easy-to-clean cream separators. Most efficient, most durable, lightest running. World's biggest separator works. Branch factories in Canada and Germany. Sales exceed most, if not all, others combined. The World's Best.




Write for catalogue No. 260

**THE SHARPLES SEPARATOR CO.,**
**WEST CHESTER, PA.**
Toronto, Can., Chicago, Ill., San Francisco, Cal, Winnipeg, Can., Portland, Ore.

**H.H.H LINIMENT**

A SAFE-GUARD IN YOUR HOUSEHOLD.
FOR SORE-THROAT, RHEUMATISM NEURALGIA, SPRAINS, BRUISES SWELLINGS, POISONOUS BITES LAMENESS IN BACK-SHOULDERS AND LIMBS, CUTS, OLD SORES STIFF JOINTS, CORNS, BUNIONS CHILBLAINS, ETC.

THE STOCKMAN'S STANDBY.
SAFE-PROMPT-SUCCESSFUL TREATMENT FOR THE MANY AFFLICTIONS OF THE HORSE & OTHER DOMESTIC ANIMALS.
CAN BE USED TO BLISTER, OR NOT-AS NEEDED. FULL DIRECTIONS.

**PROVEN THE BEST BY 40 YEARS OF TEST.**
50¢ & $1 Sizes Sold Everywhere.
**IT DOES THE WORK**
H.H. MOORE & SONS, MFG'RS. AND PROPRIETORS
STOCKTON - CALIF.

**THICK, SWOLLEN GLANDS**

that make a horse Wheeze, Roar, have Thick Wind, or Choke-down, can be removed with

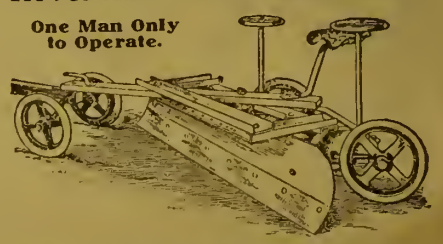
**ABSORBINE**

or any Bunch or Swelling. **No blister, no hair gone,** and horse kept at work. $2.00 per bottle, delivered. **Book 3 D free.**

**ABSORBINE, JR.,** for mankind, $1.00, delivered. Reduces Goitre, Tumors, Wens, Varicose Veins, Ulcers, Hydrocele, Varicocele. Book free. Made only by
**W. F. YOUNG, P. D. F., 244 Temple St., Springfield, Mass.**
For Sale by Langley & Michaels, San Francisco, Cal.; Woodward, Clark & Co., Portland, Ore.; F. W. Braun Co., Los Angeles, Cal.; Western Wholesale Drug Co., Los Angeles, Cal.; Kirk, Ceary & Co., Sacramento, Cal.; Pacific Drug Co., Seattle, Wash.; Spokane Drug Co., Spokane, Wash.

**The Simplex Russell Reversible Road Machine**

One Man Only to Operate.



Send for Catalogue.
**WM. T. MARTIN MACHY. CO., Agents**
**1277 Howard St. San Francisco, Cal.**

**John Lynch** Breeder of Registered **Shorthorns**
MILK STRAIN
Box 321 Petaluma, Cal

sale of oleomargarine should be amended in order that the great dairy interests of the country, as well as consumers, shall be adequately safeguarded from the illegal substitution and sale of this comuodity for genuine butter.

"I am not opposed to the legal manufacture and sale of olcomargarine, but I do object to the sale of this product as and for butter.

"I earnestly request that you will assist, by your vote and influence, at the coming session of the 61st Congress, in securing remedial legislation which will properly protect dairymen, farmers, merchants and consumers from the fraudulent traffic in oleomargarine and other substitutes for pure butter."

Also that Granges, dairy associations and other organizations authorize the sending of a letter similar to the following to President Taft.

"We learn from the report issued by officials of the Pennsylvania Department of Agriculture, Pure Butter Protective Association of Pennsylvania, and the Pennsylvania State Grange, that the National Laws which control the manufacture and sale of oleomargarine are defective in many particulars. That by reason of these defective statutes, unscrupulous dealers sell illegally great quantities of oleomargarine as genuine butter. Such traffic is a serious detriment to dairymen, and an injury and deception to consumers. Statistics of the Pennsylvania Department of Agriculture show that about 90 per cent. of the oleomargarine retailed is sold as pure butter. We strongly object to the sale of this commodity as and for butter."

"It is also rumored that Hon. Franklin MacVeagh, Secretary of the Treasury Department, is inimical to the great dairy interests of the United States by his attitude in recommending a decrease of the tax on colored oleomargarine as provided by the terms of the "Grout" law.

"Therefore, we, on behalf of the dairymen, farmers, merchants and consumers, generally, earnestly protest against such action as it is alleged Mr. MacVeagh proposes to take at the next regular session of the 61st. Congress.

"We would respectfully petition that in your message to Congress on the occasion of its convening in December next, that you invite special attention to this important subject, and suggest proper remedial legislation to properly safeguard our dairy interests and protect consumers from the fraudulent sale of oleomargarine for butter."

**Do your cows milk hard? Send 50 cents for teat expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

## TULARE COUNTY FAIR.

(Continued from Cover.)

engines, water lifting machinery and steam fittings made by the Smith-Booth-Usher Co. of Los Angeles won for that concern the blue ribbon for the most complete exhibit in the machinery department.

The poultry and dairy exhibits were large and the substantial buildings housed them most attractively. The dairy industry is next to fruit growing the strongest factor in the upbuilding of the Tulare section. In the dairy exhibit, in the two year old Holstein class, the blue ribbon was given to W. F. Mitchell and second place to R. F. Guerin. In the butter fat contest, premiums were divided between A. W. Smith and C. G. McFarland of Tulare. Mr. McFarland's cow, Gertrude Grimm, a Jersey, won the blue ribbon. Mr. Guerin's Apple Blossom Zampa, a Holstein, took second place. We show on this page an engraving of Mr. Grimm's Holstein that took first place in the butter fat contest last year.

R. F. Guerin's Prize Winner.

The fair was given a good attendance from the very first evening when it was formally opened by an address by Secretary of State Curry, at which time almost every exhibit was in position and ready for inspection. The fair was a most complete success as showing the possibilities of Tulare county agriculture and was of great value in bringing together the producers of that section in closer bond.—D. C. M.

## CONCRETE SILOS.

Excavate loose and yielding soil to solid ground and of large enough diameter to allow for the thickness of the walls. Then construct a twenty-inch solid wall up to the ground level with a mixture of concrete as follows: One part Portland cement, three parts sand, five parts crushed stone. See that this foundation is well tamped and you are now ready to construct forms for silos, which are to be constructed as follows:

Draw a circle the circumference of the foundation; then lay boards on the line around the circle. Nail these lightly together, then using the same form of measurement, mark a circle upon them; knock apart and saw as marked. When nailed together again, you have what is called the "By-Form" or brace.

After constructing several of these forms, which are to act as the inside braces, erect forms four feet high, by nailing side boards on this brace, using the next one when needed. Allow for three-inch hollow wall and 10-inch air chamber, concrete to be mixed as follows: One part cement, 3 parts sand, 4½ parts crushed stone; tamp well. Allow this concrete to set hard; then wet top of wall and raise forms for the next filling of concrete. Be sure the forms overlap the wall by about 3 inches; then fill as previously instructed and so on until desired height is reached.

Reinforcing to be as follows; one-forth-inch steel bar placed around the outside of the wall and centered every three feet. Set these bars before concrete is poured into the forms. They can either be set with wooden blocks or wire. For an absolutely water-proof silo, wash the outside with pure cement.

The roof can be made of concrete, or of wood, allowing for ventilator at the top.

Openings should be left for doors every four feet. A shute should be constructed as follows: Of rough boards construct a form, running simultaneously with the side of the silo so as to form a perfect bond; the size of the chute to be three inches thick, three feet at the sides and 4½ feet on the face, reinforced with bars running from top to bottom.

It would be advisable where there is an abundance of alkali water for the farmer to secure a slag cement.—Farm Stock and Home.

The state of Colorado has received $50,000 from the net receipts of the national forests within the bounds of that state for the year ending July 1st, 1909.


# The Thing That Interests Dairymen Today

is not which Company **has made the most failures** in its attempts to make successful Cream Separators, or which Company has abandoned or discarded the most inventions because (by its own admissions) of the inferiority of those inventions.

***The questions which interest dairymen are:***

## Which is the best Cream Separator in 1909?

## And which will continue to be the best Separator in 1910?

The **United States Separator holds the World's Record** for close skimming.

Its record has not been equaled by any Cream Separator, although numerous attempts have been made to equal it.

The **United States** has a **solid one piece frame.** No bolts, screws or rivets to work loose.

Gearing enclosed in dust-proof case. Gearing runs in oil bath.
Closest skimmer in the world. Simple and easy to clean.
Light running. Longest life.

The **United States** has the best point of all—**perfect separation**—and also has **more other good points** than any other Separator.

Selling Agents in every dairy section in the country, will grant a free trial.

Send for Catalogue No. 20

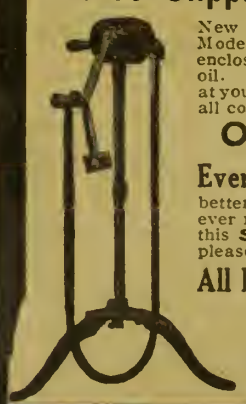
**VERMONT FARM MACHINE COMPANY**
BELLOWS FALLS, VERMONT

**Prompt Delivery Assured** California Customers from Stockton warehouse. No delays. Address all letters to Bellows Falls, Vt.

# Save from $1 to $2 per horse

that you now pay for clipping by doing it with this splendid

## Stewart No. 1 Horse Clipping Machine



New and improved *1908* Model Ball Bearing and all enclosed gears running in oil. The price at your dealers' all complete, is ONLY $8.50

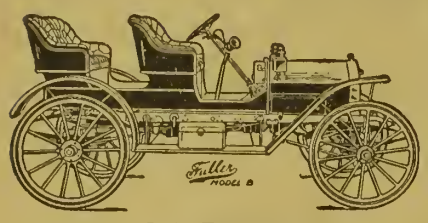
**Every Horse should be Clipped** Clipped horses look better, feel better, work better, and are easily cuffed. No machine ever made runs so easily, clips so fast, and lasts so long as this ***Stewart No. 1.*** It is fully guaranteed and must please or the purchase price will be cheerfully refunded.

**All leading dealers have it. Ask to see it!**

It is the greatest clipping machine of all time.
If your dealer hasn't it, write to us about it.

**Chicago Flexible Shaft Co.** Dept. H, Chicago

# THE FULLER



**At Last**

**What You Have Been Waiting For**

*Two or Four Passenger*
*18 Horse Power*
*Engine Under Hood*
*Shaft Drive*
*96 In. Wheel Base*
*4 Full Elliptic Springs*
*Artillery Wheels 36 In. High*
*14 In. Road Clearance*

Write for Catalogue

**Arnott & Company - Los Angeles**

## Hopkins' Improved Small Fruit Plants

### Strawberry Plants

Twelve varieties and ready about Oct. 1st.

Blackberry, Loganberry, Mammoth Blackberry, Raspberry and Phenomenal Berry Plants. Ready about Dec. 15th.

Burbank's Crimson Winter Rhubarb.

Send for price list.

**G. H. Hopkins & Son**

**BURBANK, CAL.**

# SEEDS

## Poultry Supplies

The best that grow. Send for Catalogue and Price List.

**West Coast Seed Co**

***115 W. 7th St.***

***Los Angeles, Cal.***

## Plant California Grown Superlative Raspberry

**Largest Raspberry in Cultivation**
**Earliest to Ripen**
**Longest Cropper**
**Most Heat Enduring**
**20,000 Plants for Sale**

**Wm. Richard** 320 River Street, Santa Cruz, Cal.

## Eucalyptus Trees

All sizes for Fall and early Spring planting. We make special prices on seedlings, 500 to 1,000 trees to a flat. We have a quantity of hardy stock for bare root planting, can be handled at small expense and give satisfaction. Correspondence solicited.

**The SOUTHARD NURSERIES, Redlands, Cal.**

**Feijoa Sellowiana** A most delicious fruit that can be used for every purpose that an apple is used. Strong plants 75c.

**Pleroma Splendens** with foliage of velvet and royal purple flowers, 75c.

**Avocado or Alligator Pear** Seedlings and budded trees. Many novelties in plants.

**COOLIDGE'S, Pasadena, Cal.**

**EUCALYPTUS**
**TREES AND SEED**
**SUNSET HORTICULTURAL COMPANY**
**Inglewood, California**


# Small Fruits and Vegetables

## HOW TO USE A HOE.

So many people have a horror of using a shoe. It is the mist comfortable implement found in the equipment of a gardener or farmer, and it is handy to use for so many purposes that one cannot get along without it.

Probably one reason that people do not like like the hoe is that most hoes explain at once how "dull as a hoe" came into proverbal use.

A dull hoe is certainly not a pleasant implement with which to work. The good gardener will keep his favorite hoe filed to a sharp edge all the time. It is impossible to grind a hoe on a grindstone because the bevel must be on the upper side of the blade when it is in use, in order to make the hoe "bite" into the soil.

File your hoe, making the bevel about twice as wide as the thickness of the blade. Then keep it bright and when you go out after weeds the hoe slips through the soil so easily that hoeing is not much like hard work.

Champion Market Melon.

In hoeing, a long slow movement should be made, if the soil is in good condition. Simply "scuffing" half an inch of the top soil is enough to kill weeds and one can go over a lot of ground in one day if the hoe is sharp and bright and the strokes long and smooth.

With a sharp hoe one can cut thistles, dock, dandelions and other noxious weeds with quickness, dispatch and ease. It is light to handle, easy to use and more effective than any other implement for many purposes.

In choosing a hoe, select one the blade of which lies, not quite flat on the floor when you are standing erect, with the hoe handle extending from your hands when in working position to the floor. The heel of the hoe should not quite touch the floor from this position.

Such a hoe will bite into the soil easily, when it is bright and sharp and will work smoothly and effectively.

Sharpen the hoe as soon as it gets noticeably dull. This will be hard on the hoe but it saves muscle and hoes are cheap.—Farm World.

## ONION GROWING.

The onion thrives best in a cool, moist soil which is easily kept in a mellow condition. Such soils are confined mostly to river bottoms, and they contain more vegetable matter and sand than is commonly found in mesa and upland soils. Large amounts of decayed vegetable matter seem to be essential to the best development of this crop.

Heavy soils are not suitable for ounion growing, for the reason that it is difficult to make a good seed bed, and the surface is likely to bake and crack, much to the injury of the young plants. It is difficult to get a uniform growth of onions on such soils, consequently a large percent of scullions usually results.

The land for onions should be heavily fertilized with well-rotted stable manure. It is then put in the very best condition possible for planting.

Cultivation and weeding is begun by hand as soon as the plants appear above the ground. The hand wheel hoe is used, but the thinning and some of the weeding must be done by hand.

If good onion soil has been selected, but little irrigation will be needed in the fore part of the season. In the heavier soils, where the water is run in furrows between double rows, the irrigation is begun earlier, and every effort is exerted to keep the ground moist.

Harvesting is begun by the 15th of September and the crop is usually all out of the field by the middle of October. The bulbs are pulled by hand and thrown into windrows. After they have become completely cured, the tops are removed, and the onions are sorted and sacked. Topping is done by cutting off the tops about a half-inch above the bulb, taking care to make a smooth cut so as not to injure the outer coverings.

## SOME EXPERIENCE WITH EUCALYPTUS.

In response to a number of requests for further information as to eucalyptus for moist land, A. E. R., Latou, contributes the following:

"Five years ago I obtained some eucalyptus trees from a neighbor—about 800, paying fifty cents per hundred. He had grown them in his garden the previous year. He placed two boards on edge a little less than four feet apart, and sowed the seed in rows in the bed thus formed. The boards used were 1x12 sixteen feet long. Lath were then placed across the boards, leaving a space the width of a lath between each two, nailing a strip across the ends for convenience in handling them, making four sections each four feet square. The lath were used to protect the young seedlings from the sun. The plants came up very thickly. When about six inches high, they were transplanted in the open about two inches apart.

The trees which I bought to plant averaged about fifteen inches high and were scarcely as large as a lead pencil.

There were about 400 red gums (rostrata) and as many blue gums (globulus). I planted them in rows eight feet apart, setting them two to three feet apart in the row, simply sticking a spade in the ground, pushing it forward and dropping the tree behind the spade—a very poor way to plant—yet a majority of the rostrata grew. Not many of the blue gums survived such treatment.

My land is Kings River bottom land under the levee. It has never been cultivated except a little the first year. The water rises to the surface in a season of high water in the river. Frosts and wet feet killed all the blue gums but one, and that one has made slow growth.

I commenced cutting posts when the trees were four years old, getting two seven foot posts from a tree, one good post, the other smaller. The branches and leaves make excellent kindling. The posts are very strong.


**TREES TRUE TO NAME**
The Silva-Bergtholdt Co. Newcastle, Calif.
**PLACER NURSERIES**

# FRUIT TREES

**ALL STANDARD COMMERCIAL VARIETIES**

The best that good care can produce

Write us now concerning your Fall and Winter Planting

**AGENTS WANTED**

**The Silva-Bergtholdt Company**
115 Orchard Street Newcastle, California

# Eucalyptus Seeds

In large or small quantities, 33 kinds to select from. Write for free pamphlet "Eucalyptus Culture." It gives full directions for sowing the seed, raising the plants and planting out into the field, together with descriptions of all the leading species, giving their uses and the localities to which they are adapted. Sample packets 15c each, 2 for 25c, 4 for 50c, 9 for $1.00. Choice Flower, Garden, Tree and Palm Seeds, Roses, Flowering Plants etc. Catalogue mailed free upon application.

**Theodore Payne**
SEEDSMAN and NURSERYMAN
**345 So. Main Street**
**Los Angeles, Cal.**

**CRIMSON WINTER RHUBARB**

$1.50 a Dozen, $6.00 per 100, $40.00 per 1000

Now is best time to plant Rhubarb.

Berry Plants of All Kinds.

**J. B. Wagner**
**Pasadena, Cal.**
Rhubarb and berry specialist

# Eucalyptus

We have ready for immediate shipment
**100,000 BLUE GUMS**
fine, healthy stock.
Write for our Eucalyptus circular.

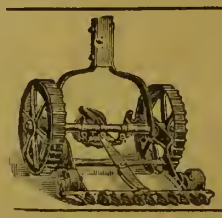
**Sycamore Grove Nurseries**
**Saint & Warner**
**4584 Pasadena Ave, Los Angeles**

# Eucalyptus Trees

**Red and Blue Gum**

Specially prepared for cheap transportation and safe transplanting. Write for particulars to

**HENRY SHAW, Santa Cruz, Cal.**



**THE CLIPPER**
Will cut tall grass and weeds and do all the trimming along the walks and drives.
Your dealer should have them—if he has not drop us a line and we will send circulars and prices.
**Clipper Lawn Mower**
**Dixon, Illinois.**

# Paper Berry Baskets

Better and cheaper than wood.
Send for samples and prices to

**E. F. ADAMS, Petaluma**
**Mfr. of Egg Cases and Fillers, Paper Boxes, Etc.**

# The Ornamental Garden

## GROWING PLANTS FROM SEEDS.

THE growing of plants from seed is one of the most enjoyable forms of gardening, far surpassing in interest the planting of advanced plants from the florists, which are ready to transfer to the ground, and have no claim on one's affection and sympathy, as must be the case with anything which we have cared for during a period of some weeks and watched grow from a tiny seedling—just cracking the earth above its head to peep and see what all the light and air and sunshine above ground are like, through the first true leaves and successive transplantings, until we triumphantly exhibit the matured plant, strong, many leaved and giving promise of abundant bloom or fruitage, when a little time and sunshine shall have had their way with it.

Seeds may be planted in the shallow boxes, known as flats. These may be of any convenient size, but should be shallow, not more than three inches deep for such plants as asters, verbenas and the like, while for tender green house plants and those of fine seed and slow development at the start, as the begonias, nicotianas and the like, the shallow cigar boxes are preferable, as they are easily handled and afford sufficient room for one variety of seed. They should have a few small holes drilled in the bottom for drainage, these being covered with a bit of glass or crockery, to prevent the earth washing into them and clogging them up.

The best earth for fine seeds is fine leaf mould and a little clean, white sand. For the larger flats and coarser seeds, a good garden loam, well incorporated with leaf mould and sand, may be used.

Sow such fine seeds merely over the surface, pressing them into the earth with a bit of board, set the flats in a pan of water until the surface looks dark, but not wet, drain off all surplus water and place in a warm place where the flat will have bottom heat, if possible, and an even temperature; cover the flat with a sheet of white paper and a pane of glass and leave until germination takes place, watching the flats in the mean time, to guard against drying out of excessive moisture.

Larger seeds should be covered lightly with fine earth or sand sifted evenly over them, and pressed down with the board. While still larger seeds as asters, pansies and the like, may be sown in drills one eighth of an inch deep, and the earth brought over them and firmed.

Large seeds of ornamental plants, as the cannas, ricinus and the like, where it is desired to sell them, may be planted singly in small thumb pots and shifted into larger ones, as the pots fill with roots. These should find ready sale about planting-time among one's neighbors.

Should the small flats show a tendency to dry out at the bottom, set them in a pan of water as at first, draining away all surplus moisture. If too wet, which will be shown by drops of water on the glass, remove the glass partially until the right degree of humidity is restored. Do not pour water from a cup or watering pot on flats of seed, but water with a rubber sprinkler or, if that is not at hand, a brush broom dipped in water and shaken gently over them. —Orffs.

## GARDEN NOTES.

The lawn that is patchy should be reseeded and the seed raked in with a hand rake. Covering the seed lightly with soil from the creek bottom will insure better germination and growth.

Shrubbery and perennial plants well arranged on the home grounds add wonderfully to the character of the home. A great part of life in summer is lived out of doors, hence it pays to make the resting grounds about the dwelling as sanitary and as attractive as possible. Ornamental plants add large money value to a place.

Set out a few flower and fruit plants each year and soon you will have an abundance. Many people never have any yard and garden worth speaking of because they always neglect to order and set out plants in season, always fully believing that they will not forget it the next year. A good motto in gardening is, "Do it now."

More than 11,000 named roses are now found in the catalogues and possibly one-half of these are in fairly common cultivation. Yet, still more surprising is this that a dozen well-selected, very distinct varieties will represent the most important colors, shapes and seasons of bloom. In Europe, where practically all the roses worth growing were first raised the rose gardens are planted with varieties belonging to a much-mixed group called the hybrid perpetuals so named because they bloom without intermission from June until cold weather. In this country the name is unfortunate because with very few exceptions the hybrid perpetuals obstinately refuse to be perpetual in any sense of the word. They give one crop of glorious blooms in June, then serenely suspend operations for a year. Because of this condition the majority of the whole class of hybrid perpetuals has fallen into disrepute but at least a good round dozen of first-class varieties will flower more or less throughout the season.—Field and Farm.

## CARE OF THE HOME LAWN.

Those who delight in a good lawn must observe these facts: Regulate the frequency of your mowing by the appearance of the grass. Aim to keep it looking green and velvety. It will not have such a look if you keep it shaved too closely in hot weather. It is a big mistake to clip a lawn too close. A sward that has the appearance of being shaved with a razor cannot be ornamental. There must be enough of the grass blade left to give the dark, rich color and the plush-like effect upon which all lawns depend for their attractiveness. A closely-clipped lawn always shows the brown of the decaying leaves at the base of the plants, through its green, thus robbing the sward of the velvety look which is its most pleasing feature.


**Genasco Ready Roofing**

Trinidad Lake asphalt is the backbone of Genasco. It is the greatest weather-resister known. It makes Genasco cost a little more, and makes it worth it because it lasts so long.

When you don't have leaks, damage, repairs, and renewals to pay for, you have real roof-economy.

Get Genasco—the worth while roofing for every building on the farm. Look for the hemisphere trade-mark, and you'll get the roofing backed by a thirty-two-million-dollar guarantee. Mineral and smooth surface. Write for samples and the Good Roof Guide Book.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt and largest manufacturers of ready roofing in the world.

PHILADELPHIA

New York San Francisco Chicago

**Burr Clover** The best cover crop. We can offer it at a reasonable figure. Write to us for prices on this and other green manuring crops.

**Get Our Prices on New Crop ALFALFA SEED.**

**Onion** White Bermuda, Red Bermuda, Crystal Wax, New Queen. Now is the time to plant early onions in the Great Inland Valleys of Southern California. And we would especially call your attention to our line of imported onion seed. They are all True to Name and "Full of Life." Get our prices on large quantities.

**Sweet Peas** Plant the early varieties now for flowers this fall. The following varieties bloom in 50 to 60 days from planting. 10c per packet, 3 packets for 25c. ***Morris & Snow's Earliest Pure White*** (Gould). ***Earliest of All,*** pink and white, very early. ***Bodger's Earliest Pink,*** New. Proved a great success last year. As early as the Earliest Pure White. (We control this stock.) ***Mount Blanc,*** pure white.

**Send for Our Catalogue**

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**Eucalyptus Trees for Fall Planting**

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# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 DUANE ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, September 30, 1909

Address all communications to Cultivator Publishing Co., 15 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

Frank H. Thomas, Adv. Mgr., 115 No. Broadway, Los Angeles
M. C. Holman, San Francisco Office, 733 Merchants Ex. Bldg.
Fisher Special Agency, Eastern Office, 150 Duane St. New York
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## The Year Book of 1908.

THE YEAR BOOK of the Department of Agriculture for the year 1908 is received. In size and general appearance it is very similar to those that have preceded it for several years.

For nearly half a century the "Agricultural Report" appeared every year until the name became so firmly fixed in the public mind that it is still current though fourteen years have elapsed since Congress substituted the Yearbook for the old Report. In fact, Congressmen still speak of their stocks of "Agricultural Reports," which about the Capitol and Government Printing Office are familiarly known as "Ags.," and thousands of farmers every year write for "Agricultural Reports" when it is the Yearbook they want, and that is what they get. It is true there is still an "Annual Report of the Department of Agriculture," but it contains merely—to quote the law— "the purely business and executive matter which it is necessary for the Secretary to submit to the President and Congress." Only a small edition of this report is printed.

The Yearbook, on the other hand, must "contain such reports from the different divisions and Bureaus and such papers prepared by their special agents, accompanied by suitable illustrations, as shall be specially suited to interest and instruct the farmers of the country." The Yearbook must also "include a general report of the operations of the Department." Besides these there is an appendix which includes the organization of the Department; a directory of the leading farmers' organizations, agricultural colleges, experiment stations, etc.; a brief review of the weather conditions prevailing in all parts of the country during the year; an account of the prevalence of insect pests and fungous diseases; a report of the progress made in soil survey work, in forestry, and along other important lines; and last, though by no means least, a very complete collection of the latest reliable statistics of crops, animal products, exports, imports, etc.

This book may be obtained without cost by application to the representative of the district in which you live or to one of the state senators. The Department is not granted a sufficient number of them to supply them direct, so readers of the Cultivator who wish to secure a copy should at once make application. It is well worth having, and Cultivator readers should secure their quota. It may also be secured of the Division of Publications of the Department of Agriculture, but in that case a charge of $1.25 is made.

## Producer to Consumer.

THE producer who goes into the city retail market to buy what he may himself have sold a day or two before, is staggered at the price put upon it. There is a vast gulf between it and the price he received.

In illustrating this point, Senator Flint in his Pomona speech said, referring to the suit of clothes he wore, the material in his suit, woolen, trimmings, buttons, thread, and everything complete, did not cost to exceed $5.80. The labor of manufacture, which, as we all know, is nominal, and the profits of the wholesailer and retailer, added to this $5.80 until he was compelled to pay $25 for it. Hosiery, for which a slight advance had been asked and for which the women of this country signed unnumbered petitions to have put on the free list, costs complete on the dock at New York $1.15 per dozen. This is the ordinary hosiery which commands $3.00 per dozen at retail. Few women wear $75 French bonnets, and those who heard Senator Flint's scathing arraignment of women who would pay that amount for a bonnet, probably never will on the street at least. But taking a $75 French bonnet as a basis, Senator Flint showed that the exact cost of all its parts amounted to $5.60. Of course the French design, the reputation of French make, and especially the profit to the retailer, made the difference.

The prune grower today is compelled to be satisfied with three cents a pound, but it is a very ordinary prune indeed that does not cost in any city 15 cents a pound to the consumer. The wholesaler, the retailer, and the packer certainly have taken their share from those prunes.

We believe the time will come when there will not be this difference. How it will be brought about, we are not prepared to say, but this is a problem to which thinking people of this country may well devote a little attention.

## Power of Organization.

UNITED STATES Senator Flint in his address at Pomona last Monday, speaking of the one-half cent increase on the lemon tariff, gave great credit for securing it to the power behind the organization of the California Fruit Growers Exchange. He said that without that organization and the fund of information it furnished, the hands of those who wished well to California would have been tied, and the importers and their agents, who so persistently worked for reduction of the citrus tariff, would have won the day.

This may be a gentle reminder to fruit growers along other lines of the advantages which would accrue to their industries were they organized and working together not only to secure immediate sale of the product in hand, but their best interests along all lines.

## Fight Fires.

IF THERE is any place in the world where the ounce of prevention is worth all the cures that may be applied, it is in the matter of forest fires. From every part of the state come reports of vast damage from fires which sweep with uncontrollable force over field and hill side. The cause of these fires is seldom given, but when it is, "embers of camp fire carelessly left" or "cigarette carelessly thrown," or similar reason, is the explantation of the cause.

It is possibly true that interested parties at times maliciously cause these fires. For such there is no punishment sufficient, and they should be unrelentingly prosecuted. We believe the proportion of such fires is exceedngly small in comparison with those caused by carelessness, and that a campaign of education should be taken up in every part of the state. The trouble has been that reputable people who "didn't think" left the live embers which caused the trouble. Their friends naturally shield them and the great wrong to the state goes unpunished.

Our laws are very rigid; let all citizens join in enforcing them. Any camper who leaves the live embers of his camp fire should be reported at once to the proper authorities. If this plan is followed, it will prove so irksome to the careless ones, and the word will be passed along so quickly that the problem will be simplified and the "cure will not have to be applied.

## International Institute of Agriculture.

(Continued from Page 315.)

without the institute, the American producers and consumers are sufficiently guided by the information they now have, information not alone of the crops of the United States but of the world. Can that be shown?

In a football game between contesting teams would it be considered fair to have the game umpired by a member playing in one of the contesting teams? Yet that is precisely what is done in the great business of the agricultural industry. The farmers produce, and the buyers have all the say as to what the price shall be, and this price is based upon the total of the world's supply, which total they furnish. And we know what that price will be, from that rare economist of old, who said: "'It is nought, it is nought,' saith the buyer, but when he hath bought, he goeth his way boasting."

This would be humorous indeed if the evils of the present system were not so dangerously far-reaching. There was a time when this evil was feebly organized, but in our day of colossal combinations; of gigantic organizations of capital, cunning, and craft; of mastership in the employment of these powerful agencies, is it safe to leave this power for evil in the hands of interested parties?

We increase our army, we augment our navy, all for the sake of conserving the nation; but what good can our army do, of what value our navy, so long as a few rich, powerful, and crafty organizers may determine the factor which goes to make the price of our staples of agriculture? Here the very foundation of the structure upon which this nation rests is within easy tampering reach of an enemy infinitely more difficult to perceive, to control, to overcome than all the foreign powers of the world. And who can deny this? It can not be denied. It is true.

Since this is true, what is to be done? Can any one suggest an alternative other than making the governments themselves the umpires? Can any one find a more effective plan than that the world's summary be supplied by the united efforts of the governments of the world? And the redeeming effect of such a united effort is one of the evidences clearly showing that the safety of the nations is dependent upon international cooperation and amity.

In this united effort it becomes the duty of each of the adhering nations to take its stand as a master, a leader, guiding and directing the institute in its work; each of the nations as master and the institute as servant. These masters must not merely act the part of quiescent onlookers, but that of directors, guiding the labors of the institute, in order that it may adequately perform the task which has been intrusted to it."

# Agricultural News Notes of the Pacific Coast

## Northern California

Nearly 700 cars of grapes passed through Sacramento last week.

A co-operative fruit company has been formed at Roseville, Placer county.

The big winery at Geyserville has already crushed more than 500 tons of grapes.

The levees near Willows, Glenn county, will be improved by the expenditure of $22,500.

Experts who have examined the rice from the fields in Butte county report a high grade of product.

Alfalfa growers near Yuba City, Sutter county, report an exceptionally fine crop of alfalfa seed.

Yellow jackets at Jackson, Amador county, made such a savage attack on a cow and calf that both died.

A severe north wind at Woodland, Yolo county, injured the crop of pears and French prunes to a certain extent.

A big forest fire started near Stirling City, Butte county, and swept over many miles of valuable timber land.

Sacramento Valley Beet Sugar Co. is running about 600 tons daily of eighteen to twenty-three per cent beets.

The Tokay grape crop of Biggs, Butte county, is proving of fine quality and much larger than was anticipated.

Vacaville, Solano county, has shipped to date this year 941 cars of fruit, almost a hundred cars more than last year.

Farmers of Modoc county have combined and pooled their wheat holdings at a price ten cents in advance of any offer yet made. Their price is $1.65 a hundred.

Sacramento Valley beet growers have been so perplexed with troubles with Japanese laborers in the beet fields that an effort will be made to secure white labor for the future.

A Chico almond grower is gathering a large crop of almonds by using a funnel shaped sheet underneath the trees which runs the nuts into a box at the center as fast as they are knocked off.

Farmers at Redding, Shasta county, who are members of the Shasta County Farmers Protective Association are gathering data to use in their fight against the smelters which they assert are ruining agricultural conditions.

The board of regents of the state university have opened bids for the construction of horticultural and veterinary buildings on the university farm at Davis. The horticultural building will cost not far from $20,000 and the veterinary building $7000 or $8000.

A corporation has been formed, and articles filed in Solano county, with capital of a half million dollars for the purpose of obtaining land and planting hardwood eucalypts. The big Gilde Ranch of several thousand acres in the northern part of Solano county has been purchased.

## Central California

San Jose horsemen will construct a race track.

Hanford is shipping quantities of pumpkin flour to Arizona points.

Over 150 acres of land were burned over in Santa Cruz county last week.

A large crowd gathered at the recent opening of the Lodi Cooperative Winery.

The Tulare County Fair closed last Saturday night with a remarkably successful season.

Lemon growers of Tulare county are in arms over the increase in the lemon freight tariff.

Producers and manufacturers of food products recently held a pure food exposition at San Jose.

The Suburban Land and Water Co., at Bakersfield, will subdivide a quantity of orange and lemon land.

A representative of the Argentine Republic is investigating fruit growing conditions of the Pajaro Valley.

Figures compiled by Mr. George Robertson of Fresno show that imports of raisins are vastly increasing.

Tree planters of Monterey county will plant thousands of acres in that section to eucalyptus the coming season.

The state creamery operators convention will be held at Porterville for three days beginning November 18th.

Supervisors of Monterey and San Benito counties propose the building of a new road over the San Juan mountains.

Stockmen near Kerman have figured that dried wine grapes are worth fourteen dollars per ton as stock food.

Brush burned from the hills in Eastern Fresno county is said to have greatly increased the feed possibilities for the stockmen.

Three car loads of Pajaro Valley Newtown Pippins have been shipped to London for exhibition purposes at the Earl's Court Exposition.

Fresno county peaches at the close of the season are reported to be of exceptionally high grade. Practically all canning fruit has now been put up.

Fresno raisin growers are contemplating making an exhibit at the United States Land and Irrigation Exposition which will begin in Chicago, November 20th.

At the recent annual meeting of the Tulare County Fruit Exchange V. D. Knupp was elected president, G. S. Berry, vice-president, and W. E. Sprott, secretary and manager.

The big Miller & Lux Company has begun work on the extension of the old Kern Water Company's canal near Bakersfield. This will reclaim much land which has heretofore been flooded in time of storm.

The Santa Clara Co. Grape Growers in session recently passed resolutions asking managers of the Portola festival in San Francisco to recognize and use only products of the California vineyards in the various functions of the festival.

## Southern California

Cucamonga growers are receiving $15 per green ton for their peaches.

One Oxnard, Ventura county, bean grower reports a bean vine having 365 pods.

The lima bean output of this state is expected to reach a million and a quarter bags this year.

It is estimated that over 5000 visitors attended the grape festival at Escondido Admission Day.

Fullerton's citrus growers are going after the mealy bug which is becoming a pest in that section.

The apple crop of the Yucaipe Valley will bring growers of that section over $100,000 this season.

Redlands orange packing houses are being overhauled and will begin the coming season better fitted than ever.

The total cost of the reclamation work expected to be taken up in the neighborhood of Santa Maria is about $130,000.

A Garden Grove rancher has taken up the production of peppermint and has found a three acre field of it to produce exceedingly well.

At the recent meeting of the directors of the Brawley Creamery Co. it was decided to raise the full amount of the capital stock.

Apricot growers of Ventura county have been much encouraged by this season's returns and a new impetus has been given to the industry.

The Orange County Carnival of Products is being held in Santa Ana today. One of the strong features is an exhibit by the poultry fanciers.

Ventura county bean growers are now in the midst of the bean cutting campaign, the season being earlier than anticipated on account of the recent warm weather.

The Ontario Citrus Association elected the following directors at its recent annual: G. W. Russell, H. E. Swan, J. A. Clark, A. T. Hamilton, Hugh Latimer, W. H. Lindley and B. E. Williams.

The farmers union and the Imperial Valley Business Men's Protective Association join in sending representatives of the valley to a meeting of the state railroad commission in San Bernardino this week.

Forest fires in the Cleveland forest reserve extending down into San Diego county back of Escondido are said to have covered a range of land over twenty miles long. One human life and many head of stock were lost.

The fruit packing season at Pomona Cannery has closed with over two million cans of apricots, berries and peaches put up. To this time there have been nearly 60 carloads of fruit shipped from this one cannery.

At the lemon men's banquet in Los Angeles last week the feeling was freely expressed that the fifteen cents per hundred raise in the lemon freight tariff would lead to the passage by Congress of an act giving more power to the Interstate Commerce Commission.

## The Coast

Corvallis ships 22 carloads of cured prunes this season.

Cut worms are doing immense damage in Gardnerville, Nevada.

Five hundred fowls were exhibited at the Interstate Fair at Spokane.

The Senate Irrigation Committee will visit Yuma, Arizona, on November 12th.

Oregon hop men maintain that a price of 25 cents will yet be reached this season.

Fruit growers at Grand Valley, Colo., recently observed their annual "Fruit Day."

The Interstate Fair at Spokane, Wash., paid this year over $100,000 in premiums and prizes.

The farmers union warehouses at Pullman, Wash., are nearly filled with wheat of this season's crop.

The Northern Pacific Railway has reduced the freight tariff on wheat twelve and a half per cent.

One farmer at Roasalie, Wash., reports a hundred bushels per acre average of oats on 110 acres.

One dealer recently purchased 450 bales of 1908 hops at Portland at the reported price of seventeen cents.

An agricultural demonstration train along the Wyoming line of the Chicago Northwestern will start early in October.

The Utah State Agricultural College made material improvements in its buildings prior to the opening of the fall term.

A new feature will be introduced at the Interstate Fair at Spokane this year in what is called the work horse parade.

A New York fruit buyer has bought the entire new crop of the Hood River apple district, paying $2.50 per box.

Large flouring mills and other interests in Portland were recently consumed by fire, entailing the loss of a half million dollars.

The Portland Union Stock Yards were opened on September 15th and are said to mark an epoch in the livestock industry of the Northwest.

The great wheat harvest of the Palouse country, Washington, is over and shows exceptionally big yield, with big warehouses and grain buyers as yet unable to handle the entire amount.

The original livestock buildings at the A-Y-P Exposition being too small, they were nearly doubled before the opening of the stock show which was on September 27th. Over 250 exhibitors are represented.

Irrigationists in Oregon have been assured that the reclamation service will continue irrigation development in that state. The state claims that there is due to it from the service over two million dollars.

The Wenatchee Valley Fruit Growers Association sold its entire output of apples to one buying syndicate at the following figures: Spitzenbergs, $2.50; Winesaps, $2.25; Black Bens, $1.75; Jonathans, $1.75; Missouri Pippins, $1.50.

# West Coast Egg Food

***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90, 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

## West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

## FOR MOULTING HENS

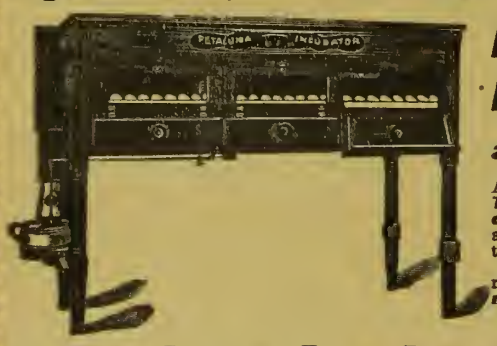
**Feed**

# MIDLAND

## Poultry Food No. 4

***$1.95 per Sack***

Midland moulting food is a balanced ration for the moulting hen and is absolutely the best food to feed for eggs and feathers. By feeding No. 4 now you bring your flock through the moult in good condition, which insures eggs when the market is high.

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Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

Send for our Illustrated Catalogue.

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**Petaluma, California**

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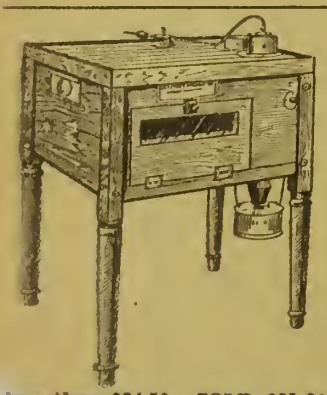
**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**

**Berrar & Robertson, San Jose, Cal.**



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Right from the start, that's what we guarantee you with the Defender line of chick machinery. It's just the equipment you should have to make the most money raising poultry, will insure you greater success because they are made right, and of California Redwood, strong, substantial, simple and economical in operation, smoke proof, soot proof, fireproof and insurable, automatic control of heat, perfect ventilation, moisture or no moisture, has deep and warm nursery. Don't buy until you investigate why our machines are superior. GUARANTEED TO HATCH A LARGER PERCENTAGE OF STRONGER AND MORE VIGOROUS CHICKS THAN ANY OTHER INCUBATOR, and the kind of chicks that grow up and bring a profit that tells. Remember WE PAY THE FREIGHT, and can save you half the cost. Our 540-egg size something less than $34.50. SOLD ON 30 OR 60 DAYS FREE TRIAL, and your money back if not satisfactory. Send for free catalogue D. and get on our mailing list, so that you may get the free poultry lectures that we will start mailing Jan. 1st.

**Defender Incubator Co.,** Dept. D. Livermore California


# Profit in the Poultry Yard

We solicit short articles of a practical nature from the farmer and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

## THIRTY-FOURTH ANNUAL MEETING OF THE A. P. A.

By Mrs. Frank Metcalf.

THE thirty-fourth annual meeting of the American Poultry Association held at Niagra Falls August 7-12 was a "rouser." More members were present than at any previous convention ever held. Between 160 and 170 members were there to answer to roll-call, and the interest was great.

The word had somehow gotten around that some sensational disclosures would be made, and the action of the Executive Board in expelling two members: Ross C. Hallock and Edward T. DeGraff fulfilled the verdict of the knowing ones, and surprised many.

Hallock was alleged to have been guilty of flagrant disobedience to the rules and regulations governing the conduct of officers while in office, and DeGraff had been accused of "faking birds, and exhibiting birds belonging to others." He admitted the charges and didn't seem to think he had done wrong, but the Executive Board thought differently, therefore expelled him from membership, and suspended his alleged partner, Geo. Tracy, for one year. Following this action, DeGraff was also expelled from membership in the R. I. Red Club.

He seemed not to realize his position and rose with the rest when the New York delegation responded to roll-call, and President Bryant immediately stopped proceedings until he was removed from the room. Thus, doubly disgraced, he left the convention, and what further action he may take is uncertain.

That a new era is beginning to dawn, is proven by the action of the Executive Board in this matter. Dishonest methods of doing business will meet with prompt punishment hereafter, and a member of the American Poultry Association must conduct himself as becomes a man and a gentleman, or suffer the consequences. This will eventually result in weeding out undesirables, and a membership in the association will stand for a certificate of good character, a long step upwards.

No less than 195 new members were enrolled during the past year, and the affairs of the Association are generally in good shape. Some financial embarrassment arises from the fact of having $6,000 tied up in the bank of Beaver, Pa., where it was placed by the late T. E. Orr before his death, and the certificate of deposit never having been found since. The money is there, and belongs to the A. P. A. but the bank refuses to pay it without certain forms being gone through, which will insure it against loss in case the lost certificate should ever be found.

The offices of secretary and treasurer were separated after much discussion, the secretary to have a salary, the treasurer only office expenses.

The revision of the Standard occupied most of the time and was the most important work on hand. The Standard for 1910-1915 will be an improvement upon the present Stardard in some essentials, but the changes are not so radical as we were led to expect from sensational reports.

White Laced Red Cornish fowls were admitted to the Standard, but the Cornish fowls were not placed in the English class, as was requested, and are still orientals. Had a representative been on the spot to work for this change it is the opinion of many that it might have been made, as there is nothing that tells on a convention like a real, live, "Johnny on the spot" to prove a living witness to the interest taken in the proposed amendment.

Buckeyes were not dropped from the Standard because two members of the National Red Feather Club were there to prove that the interest in this breed is increasing healthiliy and the club growing in power and efficiency at a comparatively rapid rate. E. L. Andrews, Ithaca, N. Y., and Eugene Cowles of Shelbyville, Ky., represented the interests of the Buckeyes well.

New breeds asking for admission to the Standard, had not fulfilled the requirements, and could not be accepted, as follows: Partridge Plymouth Rocks, Columbian Plymouth Rocks, Single Comb Silver Spangled Hamburgs, Pit Games, Buff Orpington Ducks, Bourbon Red Turkeys and Buff-booted White Bantams. I. K. Felch sent in a protest against the admission of the first three named varieties on the ground that they were simply single comb sports of the older types, and not distinct breeds.

A new feature of the new Standard will be a glossary of color terms, a difficult task for the committee in charge.

It was decided to select a new meeting place for the next convention, and St. Loius is striving strenuously for the honor, promising 100 new members if she gains the day.

The visiting ladies were well entertained, by courtesy of the Reliable Poultry Journal through Mr. and Mrs. Grant M. Curtis, who tendered a delightful banquet and automobile ride to all ladies in attendance, both of which were well attended and heartily enjoyed.

Although Niagara has been a delightful meeting place for three years it is rather too far east for good western representation, and a move west at least as far as Chicago would mean a whole lot to the great and growing West. The choice will be voted upon by mail, and we wouldn't be at all sorry to have it as far west as Denver, if not clear to the coast.—Mrs. Frank Metcalf.

## POULTRY QUERIES.

**Melon Seeds.**

Will melon seeds harm poultry? We have been eating a good many melons this summer, and throwing the rinds and seeds to the chickens. Now some of the chickens seem to be so weak that they fall over. Is there anything I can do for those that are sick? They will eat anything, and seem ravenously hungry. Aside from their falling over, one would not know that anything is the matter with them. They have been running in a vineyard. Would they be likely to get anything there that would injure them?—E. S., Pomona.

I am sure I throw out all the melon rinds and seeds to my chickens, just as you are doing, and see no bad results whatever. Perhaps your chickens may be overcome by the heat, sort of a sunstroke, or may be they get overripe grapes. I have seen chickens and turkeys under the influence of fermented fruit and they wobble just like a drunken man, and fall over, only to get up and look foolish. If none of them die, I should not bother about their bad habits, as the grapes will be gone before long, and their "spree" will be at an end.

Now, I may be entirely wrong in my conjecture, but from the rather meager details, I should suspect that this is the trouble.

If I knew how many chickens you have, what and how much you feed them, and whether there could be lice or mites at the bottom of the mischief, I might diagnose the case differently, but your own good sense will correct any trouble resulting from under-feeding, or vermin. All I can say is the above, unless a too confined diet of new wheat may have caused leg weakness as it sometimes will, even with birds on free range.—Mrs. F. M.

### Best House.

Some years ago I saw plans in the Cultivator for a hen house made with ventilation at the bottom, each end, below the roots. The house was entirely closed at the top, no ventilation at all. This was for the individual house, of course. Do you know of anyone who is making a success of poultry using that kind of house? I find the poultrymen here using the long houses each side of the alley way, vents at top of roof, no battens on side of house, and the houses appear to me to be full of draughts. This is quite a windy valley, but hens appear to be healthy. The claim for this style of house is that it is cheaper to build, and less work to care for hens, and makes the work easier in rainy weather.

I would like to get your idea of the very best up-to-date plan for a house that can be used for 50 to 500 hens. I am not after the cheapest, nor the ones that make the least work, but one that will be best for the hens. There are a number of rainy days up here in the winter time. In an individual house for 50 hens, suppose an open scratching shed could be used. I wish to thank you for the many helpful articles in the Cultivator.—W. C. H., Santa Cruz.

I believe the house referred to above, did not "pan out well" upon trial. Am under the impression that the foul, hot air from the hens would arise towards the roof, where it could not escape, making a regular "sweat-box" of a place. The principle was, that the foul air, being heavier, would sink and be carried away, but the fact was, that the foul air was heated by the bird's body temperature, and being warmer than the air from beneath, naturally rose up for the fowls to breathe over again, thus causing disease.

Now, to open these houses at the roof, was to invite strong air currents, which would not better conditions, therefore the open front scratching sheds are a very great improvement upon this style of house. The open front house may be made singly, or in a long house, divided into compartments. It may be made very cheaply and simply, or one can elaborate and use extra good material and have it as costly as one cares to. By the use of a dropping board, a two story house may be built, increasing the floor space, and by having a second floor about two feet above the ground, the floor space can be doubled, and the birds kept happy and contented in rainy weather, if given plenty of sand or straw to work in. The main thing is to have the three tightly closed sides, so there will be no draughts of wind blowing on the fowls.

This two and a half story house is the kind in operation on the Pacific Poultry Co. plant, a new plant in Southern California. The lower floor space is on the ground level, with the soil removed and eight inches of sea sand shoveled in every six months for the birds to wallow in, this being all the yard they have. The floor space above is the scratching and laying room, and the dropping boards are still above this, extending half way. The whole length opens at the back with a big door, which is made perfectly tight, so no draughts can get in from this source, and the front is wire netting, as is also the front under the floor. The partitions are also of the wire mesh. The partitions between the roosting places are made of heavy duck, so there will be no breezes blowing from end to end, and the houses are 500 feet long containing 100 pens 5x8 feet, each pen to hold ten hens and a male. The roof is given a long pitch towards the front, and a short pitch towards the back, thus giving extra height for the roosting place. It looks like birds in a cage to one accustomed to large runs or free range, but suits the man who built it, and his egg yield seems to bear out his assertion that he makes it pay.

According to experiment station work in various parts of the country, 50 hens is too many to do well in a flock, and better results were claimed where the number of hens did not exceed 15. In trial after trial, the egg yield fell off in proportion to the number added over and above 15, so while it means more work to keep them in smaller flocks, if it pays it surely should be done.


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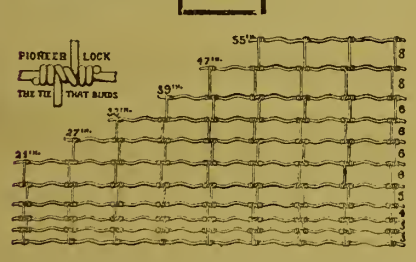


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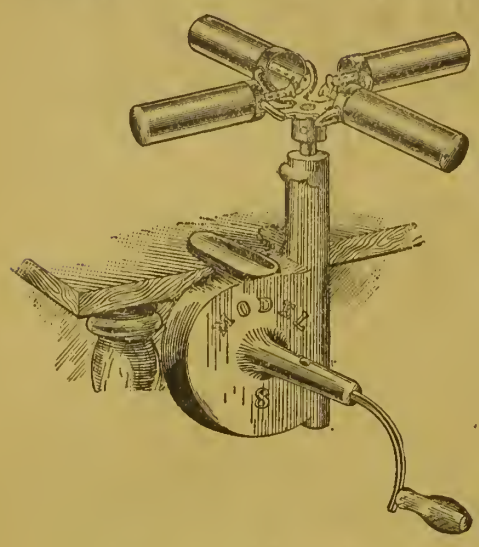

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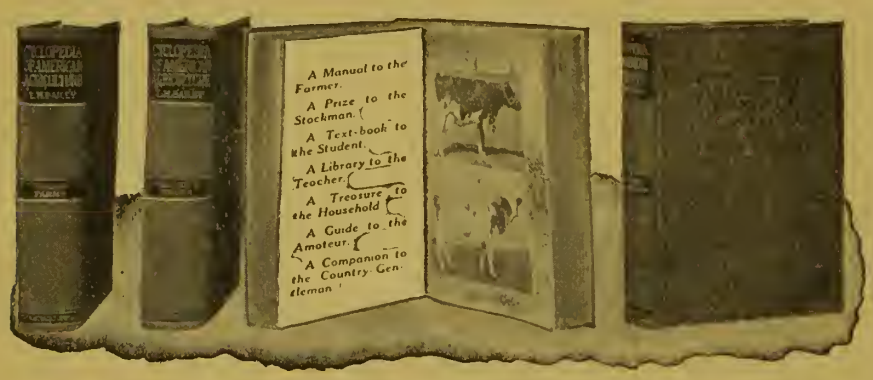
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# Irrigation and Forestry

## THE EUCALYPTUS FOR AFFORESTATION AND REFORESTATION.

By Leonard Coates, Morganhill.

THE EUCALYPT has been for a great many years, and must continue to be, the most useful tree for the afforestation of treeless plains under certain climatic conditions. These conditions, so far as the United States is concerned, exist only in California, with the exception of portions of Arizona and New Mexico, where some species are being grown. Some Eucalypts would grow luxuriantly in Florida for a period, and then be killed by the frosts that occasionally sweep over that state. In California, while the growth of these trees is exceedingly rapid, the

Eucalyptus Urnigera.

cool nights, and the gradual lowering of the temperature in the fall, so harden them that they are not affected by frosts which otherwise might prove injurious.

In Algeria, even bordering on the Sahara Desert, the Eucalypt, planted in groves and avenues, has become so common and characteristic a feature, that the traveller would at once conclude that it was a tree indigenous to that land, which is, apparently, the conception of some present day writers and novelists. And yet the species was unknown in Northern Africa a little over fifty years ago.

And what of the great plain or valley of the San Joaquin River, California? What changes will the Eucalypt there bring about fifty, twenty, or ten years hence? "Quien Sabe."

The Hon. James Bryce, in his "Impressions of the South Africa", says: "The want of forests in South Africa is one of the greatest misfortunes of the country, for it makes timber costly. Unfortunately, most of the South African trees grow slowly, so where planting has been attempted it is mostly foreign sorts that are tried. Among these, the first place belongs to the Australian gums, because they shoot up faster than any others. One finds them now everywhere, mostly in rows or groups around a house or hamlet, but sometimes also in regular plantations. * * * If this goes on, the Australian immigrants will sensibly affect the aspect of the country, just as they have affected that of the Riviera in Southeastern France, of the Campagna of Rome, of the rolling tops of the Nilghiri hills in South India."

The species that in California have been most thoroughly tested and approved for this purpose in the hot, interior valleys are Eucalyptus rostrata, E. tereticornis, E. viminalis, and E. rudis.

### Reforestation.

There is less of an element of romance as this part of the subject is approached. There is also proportionately less risk, less "gamble," with, possibly, smaller or slower return, where the Coast range of oak or other timber lands are re-planted with Eucalypts, than where a hitherto treeless plain is converted into a forest. In these lands, readily available at low prices, a much larger assortment of Eucalyptus trees may be successfully grown, owing to the milder climate and more humid atmosphere. Amongst these are E. corynocalyx, E. resinifera, E. maculata E. pilularis, E. diversicolor, E. cornuta, etc.

Groves of Eucalypts, and avenues leading to farm residences, were planted years ago in the Santa Cruz mountains, and, where old enough, they have seeded themselves, thousands of young seedlings being seen sprouting among the decaying leaves, loose soil, and in the natural forest conditions that there prevail.

Where practicable, even these lands should be plowed, or cut up with the disc harrow. To get good returns from a Eucalyptus grove it is always necessary to see that the soil is right, and that growth is stimulated by cultivation for a time. But the expense is trivial compared with any other crop.

The U. S. Dept. of Agriculture issued a "Circular" on Eucalypts which it deemed incorrect, as it was followed very shortly by a "Revised Circular." This might well be "revised" again. Estimates given on board feet per acre could only have been computed from plantations on poor lands. Anyone can demonstrate accordingly by visiting the region from Palo Alto, to Burlingame in San Mateo county. Even the "Sutro Forest," planted some thirty years ago by Adolph Sutro on the drifting sand dunes southwest of San Francisco tells the true story. And this is not the "forest condition" alluded to, but bare sand, where hardly a thistle or a Burbank cactus would grow.

The people, who pay these men, are getting rather weary of sulphur rulings, whereby clean, properly sulphured fruit is condemned, and also of hurried, careless statements, palpably incorrect, and proving not only incompetency, but prejudiced misstatements in much of the "information" published, and which should be of great use were it more carefully compiled.

# General Agriculture

## FARMERS UNION.

REPLYING to a letter from Gridley as to the origin and aims of the farmers union, a writer in the central office at Fresno says:

"We are not in position to say what the Farmers Union is in other states. We have reports of some of the work being done by it in other states, but nothing that can be confirmed. We can say, however, that the farmers union is doing fine work in the San Joaquin and the Santa Clara Valleys, and is fast becoming a power in the business world.

"We have shipped some 800 cars of watermelons so far this season from this valley, representing from $50,000 to $60,000, and we are sending our returns daily to the growers for these goods. The price the growers are receiving for their melons this year is better than usual, despite the fact that the amount of melons produced this year is nearly four times that of previous years. We are shipping melons as far east as Colorado and Montana and as far north as Calgary, B. C., and to all outside points in this state.

"We have shipped about 90 cars of green fruit to date to the auction markets in Chicago and New York. These 90 cars of fruit represent $100,000 to the growers of this valley. We have also made some f. o. b. sales that netted the growers $30.00 per ton for peaches, which is much in excess of previous years.

"The honey producers of this valley are having their honey handled through the farmers union and have signed up about eight cars of honey with us. The honey men of Imperial Valley also want us to handle their honey and are being organized that they may ship their honey through us

"A sweet potato pool is being formed in Merced and Stanislaus counties, which will represent about 300 cars, and they have asked that they be handled through the farmers union. A butter fat pool is also being formed in these counties which will be operated through the union.

"We seem to have the entire confidence of the people in this part of the state. As to the matter of handling the dried fruit and raisins signed up to us this season, we have eight packing houses in readiness in this valley and four in the Santa Clara Valley, which will be operated by the California farmers union.

"There are approximately three million members of the union in the 27 states. About 5000 warehouses, elevators and packing plants for meat and lard are being put in rapidly. Something over 48,000 farmers belong to our organization in California. Each member pays ten cents per month in dues or thirty cents per quarter. One-third of this goes to the national secretary-treasurer, one-third to the county union, and one-third is kept at home."

## SHRINKAGE OF GRAIN IN DRYING.

An excessive amount of moisture in corn is the principal cause for its deterioration during storage. The amount of moisture is therefore one of the chief points considered in grading corn, especially for export. In the effort to find an accurate and practical method of determining the amount of moisture in grain, the U. S. Department of Agriculture two or three years ago devised an apparatus by means of which the moisture can be accurately shown in from 20 to 25 minutes. In using this apparatus the amount of moisture is expressed in percentages of the original weight of the grain. For instance, one sample of corn may have only 11 per cent. of moisture, while another may have 35 per cent. Naturally the drier grain is worth more than the other, other things being equal.

But since this apparatus has been put into use disputes between grain merchants on one side and elevator men and operators of grain driers on the other have become more pronounced. The trouble is that the percentage of moisture shown by test before storage or before drying does not correspond with the actual loss of weight which results from storing or from drying. There is no real difficulty in this fact; it is a simple matter of arithmetic.

Suppose a certain sample of grain weighs 100 ounces, and the moisture in it is 20 per cent. or 20 ounces. Now, suppose the grain is dried until it weighs only 90 ounces. That means that 10 ounces of moisture have evaporated, leaving 10 ounces of moisture still in the 90 ounces of grain. The grain has lost 10 per cent. of weight, but the percentage of moisture has been reduced only 8.9 per cent, because 10 ounces is 11.1 per cent. of 90 ounces. It therefore seems as if the shrinkage in weight has been greater than the reduction in the percentage of moisture.


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# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Guernseys.

Please tell me where I can secure herd of registered Guernsey cattle.—W. A. F., Laton.

The only breeder of Guernseys in California to whom we can refer you at this moment is the J. M. C. Marble Co. of Los Angeles, which has large ranches in the Antelope Valley. They may be addressed at the H. W. Hellman Bldg., Cor. 4th and Spring Sts., Los Angeles.

### Direct Connection with Centrifugal.

Will it do to make direct connection between marine gas engine and centrifugal pump at a distance of two feet? If so, what size of two cycle engine will be best for a three inch pump?—M. D., Lodi.

The direct connection which you suggest will be effective. The size of engine required will depend entirely upon the lift; it may be a one horse or twenty-five horse power. In a general way it may be said that for a three-inch centrifugal pump .114 horse power is required for each foot of lift. From this it would seem that for a fifty foot lift a six horse power engine will do the work; for a hundred foot lift, a twelve horse power, and so on.

### Government Land.

The Cultivator recently made the statement that the Yuma Indian Reservation was soon to be thrown open to entry. This item of news was taken from an exchange the name of which we do not now recall. Inquiry at the U. S. Land Office in Los Angeles discloses the fact that while this reservation will be opened, no immediate instructions have yet been received from the reclamation office at Washington, so nothing can as yet be said as to when filings may be made. The Cultivator will keep in touch with the matter and will give definite news to our patrons.

### Asbestos.

I have a couple of claims on asbestos rock land. Can you inform me what the rock is worth? Would like to know if it would pay me to work it.—W. W. H., Yuma.

Asbestos is a valuable mineral and sells in the East at from fifteen to twenty-three dollars per ton according to the length of the fiber. A very long fiber even brings prices far in excess of twenty-three dollars. The long fibre, however, is very scarce. The best plan for you would be to send samples of the rock to the Philip Carey Mfg. Co., Cincinnati, O., from whom definite information can be obtained as to its value.

### Trimming Blackberries.

What is a good way to trim blackberries? We have been in the habit of cutting out the canes that have borne as soon as possible after the fruit season is over, and trimming back the new growth to keep the new vines from growing too tall. They generally bloom scatteringly through the fall and most of the winter, and, consequently, have a light crop the next spring.—Mrs. E. S., Pomona.

You ask a difficult question. I have had more or less to do with the blackberry in California for more than twenty years and I don't think I know half as much about how to prune them to get the best crop every season, as I did when I first came. The method you have been using frequently results just as you state and some seasons will give an abundant crop. I am speaking now of the Crandall's Early as it is the only variety I have grown. There is one method that I found excellent and it seemed to do away with the light yield through the latter end of the season. As soon as the main crop is off, cut off everything even with the ground and clean up and cultivate lightly. In a few days the shoots will begin to come out of the crown, when you want to select four or five of the strongest and keep all others cut out. Do not prune those you have left until February, when they should be topped back to three feet and the laterals to about one foot. This will give you a clean vigorous growth of wood that will produce a good crop the following season.—Q. A. L.

### Transplanting Palms.

When is the best time to lift date palms, California fan palms and B. Edulis? Those I wish to transplant are about two and a half feet high and have had no water all summer.—J. V., Livermore.

As they are practically dormant from this time until spring it will be safer to allow them to stand where they are until the approach of the growing season—say April. Many nurseryman take them up in the fall and pot or box them and set under the protection of the lath house or burlap sheds, where they recover from the shock of transplanting and are ready to start into active growth in the spring. In moving them, cut off most of the leaves. This is not so essential if you can ball them well—that is remove them to their new quarters with a good ball of earth attached.—Q. A. L.

### Teats Attached.

Two teats of Jersey heifer have grown together for three-fourths of their length. Can they be parted satisfactorily?—Old Subscriber, Ontario.

Yes, if the teats are perfectly formed, it will be successful. If the teats are joined very far down and the cutting will make large wounds, the operation had best be delayed until the teats have grown to full size, or they may be deformed by the scars and made lopsided and hard to milk.—M. E. S.

### Dipping Tents.

Please give method of treating fumigating tents by the cactus process.—E. B., Escondido.

Mr. Pease of the Horticultural Commission of San Bernardino county writes:

In reply to your query about dipping fumigation tents will say that we do not use the cactus dip or mineral paint solution and have not done so for a number of years for the reason that we have found a more satisfactory formula for the purpose which is oak extract. We have a tank over a furnace. The tank is 3 by 3 by 10 feet. Into this, filled two thirds with water, we put enough oak extract to make the tents quite dark brown. Bring it to the boiling point, then immerse the tent for thirty minutes. Draw up on a derrick that stands over the vat and after draining spread out to dry. The oak extract prevents mildew and partially fills the cloth thus making the tents last longer. Nothing but oil will make the tents gas tight and that makes the tents too heavy.

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UNION FERRY DEPOT San Francisco

| Leave | VIA SAUSALITO | Arrive |
|---|---|---|
| 7:45a | Petaluma, Santa Rosa, Healdsburg, Cloverdale, Ukiah, Willits, Sherwood, *Sebastopol, *Guerneville | 7:35p |
| 8:15a | Pt. Reyes, Monte Rio, Cazadero | †7:05p |
| 8:15a | Sonoma and Glen Ellen | 6:05p |
| ‡8:45a | Petaluma, Santa Rosa, Guerneville | ‡7:05p |
| ¶2:45p | Pt. Reyes, Monte Rio, Duncan Mills | ‡7:35p |
| 3:15p | Petaluma, Santa Rosa, Healdsburg, Cloverdale, Ukiah, Guerneville, Riverlanding, Sebastopol | 11:05a |
| 4:45p | Sonoma, and Glen Ellen | 9:35a |
| 5:15p | Petaluma and Santa Rosa | 8:35a |

**ELECTRIC SUBURBAN VIA SAUSALITO**
**Sausalito, Mill Valley, San Rafael**—Daily every 30 minutes from 6:45 a. m. until 9:45 a. m.; hourly until 2:45 p. m., then 3:15 p. m. and every 30 minutes until 7:45 p. m., then 9:00, 10:35 p. m. and 12:01 a. m. (On Sundays in addition—Every 30 minutes from 9:45 a. m. to 3:15 p. m., excepting 2:15 p. m.)
**Fairfax**—Leaves †6:45, 7:15, 7:45, 8:15, 8:45, 9:15, 9:45, ‡10:15, 10:45, ‡11:15, 11:45, a. m.; ‡12:15, 12:45, ‡1:15, 1:45, 2:45, 3:15, 3:45, 4:15, 4:45, 5:15, 5:45, 6:15, †6:45, 7:45 p. m.
**San Quentin via San Rafael**—Leave 9:15 a. m., 1:45 p. m.
**Tiburon and Belvedere**—Week days, 7:30, 9:00, §11:45 a. m. (§12:15 p. m. Saturdays only), 3:30, 5:30 p. m. Sundays—7:30, 10:00, 11:00 a. m.; 12:30, 3:30, 5:30 p. m. and §12:01 a. m.
*Sunday arrive 7:05 p. m. †Except Sunday. ‡Sunday only. ¶Saturday only. §Via Sausalito.
Pacific Transfer Company's agents are authorized to check baggage direct from residences.

# Bees

## HIVES AND SUPERS.

The hive, or brood box can be home-made, with loose bottoms, which can be removed for the purpose of cleaning out possible obstructions such as dead bees, says a writer in Farm, Stock and Home. The top must be made of pattern slats or boards, spaced to fit sections, so as to keep the queen bee from crawling up into the super. These slats and sections can be bought of some bee supply house very cheaply. These sections should be placed in a box snugly, and so proportioned that 2 tiers, 48 sections, will fill the box level full and without any spaces except those in the sections. Get sections with two open sides and to match the slats they are to be placed on. Such a super can be made of 1-inch ends and ½-inch, or less, sides, but the bottom must be made of pattern slats to fit those on top of the brood box. For a covering of the sections a piece of oil cloth, cut to fit, will be found as efficient as boards.

The sides must be so nailed or screwed on that they can be easily removed when the sections of honey are wanted. The outside covering or shell of the super can be made of the cheapest grade of galvanized iron, nailed around the proper size of a board for a top, and flared out at the bottom so as to fit tight over the brood box. Lift this cover off only when you want to attend to samething about the super, and don't make the bees uneasy by your omnipresence or curiosity.

The sections should be started with foundation comb. Cut foundation into 2-inch squares and cut again diagonally across the square. Melt over lamp chimney in a tin basin, a small quantity of rosin and beeswax, dip each triangular piece of foundation comb edgeways into this warm mixture and stick in upper corner of section. This process is important, can be done very rapidly, even by the amateur, and it helps the bees in the architectural phase of honey production, to get things straight.

When buying bees get them in hives, and perhaps with patent supers, so you will need extra boxes only for the new swarms. If the purse doesn't object to buying all the bee supplies get the kind you got your bees in first and everything is made after patterns to fit. These supplies are cheap if you nail them up yourself.

## WHEN A QUEEN BEE IS LOST.

It is very important to be able to learn at once when the queen is lost during early Summer. The loss of a queen from a hive, even for a single day, will make a marked difference in the strength of the colony, for a good queen will lay 2000 to 3000 eggs in a day at this season. Whatever you do, be careful and not drop the queen off the combs when handling them at this time of year, and do not interfere with her work by changing combs about to expose brood.

By a little attention you may be able to detect a queenless hive by the manner in which the bees act on the outside. When they stand around in a care-for-nothing manner and no bees are going in with pollen, it would be well to open the hive and take a look at them. If you find eggs and worker brood you may be quite sure the queen is there; if not, go ahead and find out if there is no queen. Finding none, proceed at once to take a frame of brood from another hive and watch if they start queen cells in about 24 hours. If not, then they have been some time queenless, and if such is the case give them a queen if possible.

# Classified Liners

Rates 1½ cents per word per issue No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

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FOR SALE—A SNAP. 4000 SWEET seedling orange trees for budding this fall, good healthy stock. Can remain in nursery where they now stand, also can arrange for the care. Price, $1000.00. Also a seed bed, the finest in the state, sour and sweet stock, 75,000 in the lot. Make me an offer. Address, C. W. WILHITE, Glendora, Cal.

FOR SALE—1500 EUREKA LEMONS, 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. B. WARNER, Santa Ana, Cal.

FOR SALE—ABOUT 250 VALENCIA orange trees. Will sell in ground at right prices. Come and see them. M. E. DILLINGHAM, San Gabriel, one mile north of Masonic Home. Phone Black 198, Alhambra Home.

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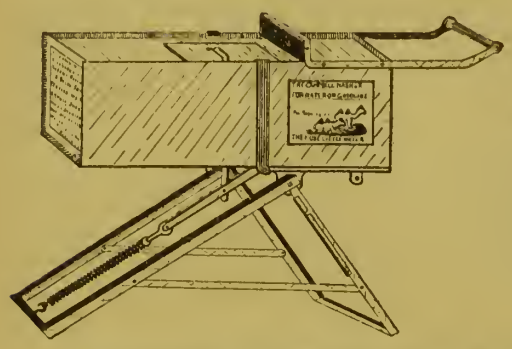

will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

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without high shelf. With high shelf, just as shown in the cut, $19.97; large oven six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

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We are the exclusive agents for the **A. I. Root Co., Medina, Ohio.** Our hives are manufactured from selected California Sugar Pine. Branch houses at Los Angeles and Elk Grove, Cal. Write for Catalog. We also manufacture orange, fruit and packing shook, drying trays, etc. Beeswax wanted.

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When writing advertisers, mention Cultivator.


# Household Department

### THE FLYWHEEL AND THE FLY.

A Fly lit on a Flywheel and was
startled when he found
That the Flywheel was going round
and round.
So he held his legs akimbo, chuckling
airly with glee,
"Why, the thing that makes the Fly-
wheel go is nothing else but
me!"

The Fly he rode the Flywheel for a
little hour or so,
And buzzed in his excitement as he
murmured, "Watch us go!"
"Pray, what other Fly could set a
wheel a-spinning like a top?
For if I should leave this Flywheel,
it certainly would stop."

The Fly retained tenanciously his
airy little notion,
Till by and by he felt himself grow
dizzy with the motion.
So he tumbled, but he noticed as he
lit upon the floor
That the wheel was going round just
as it had before.

O little Fly, O naughty Fly, 'tis pite-
ous to feel
That your legs are not the motor pow-
er that spins the awful wheel;
And certainly 'tis a shocking and em-
barrassing surprise,
When facts like these grow obvious
to Men as well as Flies.

### PRELIMINARY TALK.

"SAY, papa," Bobby began. "Now er—you know what you said once."

Bobby's father laid down his paper and frowned thoughtfully.

"Was it something unusually brilliant?" he asked. "Or was it just one of my everyday remarks?"

"It was about my passing at school."

"It did look somewhat doubtful," his father said solemnly. "I hoped at first that you would make it, but I'm willing to make allowances, so if you didn't get through—"

"Oh, but I did!"

"Good! Let me congratulate you!"

They shook hands formally and then Bobby settled back in the big chair.

"It was an awful lot of work," he said. "Specially hist'ry. Gee, there ain't nobody but Mamie Kelly can remember half that stuff. Susie Herrick got 27 for her mark, but she ain't going up anyhow and she says she don't care. Oh, I bet she does all right!"

"Of course she does."

"Anyhow, I'm glad she ain't going to be in my room next year. She's the limit. Billy says she's the stingiest girl he ever seen. She never gives even a girl a bite when she's got an apple and then she thinks we're fierce if we don't let her have some of ours I'm glad she didn't pass."

"Here, young man, don't talk that way."

'Well, I don't care. I am glad. All the fellers are sore at her. Now, Nellie Foster passed all right. I thought at first she didn't, 'cause I seen her sitting in a corner crying. I ast her what's the matter and she said she was sorry for Susie Herrick. Say, wouldn't that make you laugh?"

"Nellie Foster seems to be the right sort, Bobby—"

"Oh, sure she is. I gave her my Taft button and she stopped crying. It's busted some, but she can glue it. I told her I was glad she'd be in my room next year."

"That was handsome of you."

"Well, anyhow, I'm glad it's summer. I s'pose you'll go on your fishing trip now?"

"Not for awhile yet, but I have made all my arrangements."

"Say, papa, when you cast do you throw this way or twist your hand crooked like this?"

Bobby stood with his feet planted squarely and his arms waving in imminent danger of smashing the lamp.

"Get my rod from the corner, and I'll show you," said his father.

Bobby brought the rod almost reverently and placed it in his father's hands.

"It's harder than it looks," he sighed when the lesson was over. "I don't believe I could hardly ever catch a thing."

"You'd like camping," his father said slowly. "The sky and the trees and the lapping of the water. I don't believe you'd mind the hard parts, either—the flies and mosquitoes and getting wet and tired."

"You bet I wouldn't!" Bobby cried, eagerly. "When I'm a man I'll go every year."

"Your mother's going to a hotel where you can play tennis and I'll come up later on."

"I don't know how to play tennis."

"You don't know how to fish, either," his father said. "I've engaged a real Indian to cook for me and be guide and he has a canoe."

'Oh, papa!"

Bobby was silent a long minute and then he spoke hesitatingly.

"You said—" he began.

"Yes?"

"You said if I passed you'd see that I had a lot of fun this summer and I don't call it a circus to go up to that crazy hotel."

"Why do you talk that way?"

"Well, I don't call that fun. Gee, you got to stay so awful clean and the lake never gets even rough enough to be fun swimming in it. It's a regular girls' place."

"Would you rather stay at home?"

"I should say not. All the fellers are going somewhere."

'Where do you want to go?"

"Camping!"

"In the cold and the rain? And walk miles and miles when it's steaming hot? And be wakened at night by owls and raccoons and hedgehogs and snakes? You aren't very big yet, you know."

"I'm bigger'n Billy," Bobby cried, indignantly. "I could use your fish-pole easy if I wan't afraid of busting it."

His father regarded him thoughtfully.

"We won't put it to the test," he said. "I'd rather not have it broken. Suppose, instead, you bring me that small new one from behind the davenport and see how it works."—Chicago Daily News.

### EXERCISE FOR BETTER FIGURE.

An excellent exercise for reducing abdominal fat is taken as follows: Lie flat on floor with arms at side. Catch the toes under something to hold the feet down. Keeping the knees stiff, take a deep breath and rise slowly to a sitting posture. Lower the body slowly, expelling the breath. But care must be taken not to overstrain the muscles while practicing these movements.

## LAUNDERING CURTAINS.

LACE and muslin curtains may easily be laundered at home, and that without any great expenditure of time or trouble if the matter is gone about in a scientific manner.

A dry, mild day should be chosen for the operation. First shake the curtains before wetting, or hang them up and brush them dry with a soft brush to get rid of the superfluous dust. Then soak in cold water and borax—one tablespoonful to two gallons of water—for an hour or two. This will remve all traces of old starch and will facilitate matters greatly.

Squeeze them well in the water, then pass through a wringing machine. Wringing by hand tears the delicate fibers. Wash in warm water, making a lather with soap jelly. Work them up and down in this, squeezing and pulling them through the hands. If not clean after the first washing, repeat the process.

### Don't Rub.

Rubbing of all kinds must be avoided and it is always dangerous to wash curtains by machinery. Rinse them in the usual way, first in warm water, then in plenty of cold, to insure perfect cleanliness and a good color. Pure white curtains may have a little blue either added to the last rinsing water or mixed in with the starch.

The curtains may then be dried, but a great saving of trouble will be effected if they are starched right off. In this case the starch will be required to be a little thicker than if the drying process is first resorted to.

Hot water or boiled starch must always be used and the requisite thickness will soon be learned by experience.

All being ready, enough starch to thoroughly wet one only should be put into a basin or small tub. Squeeze the curtain as dry as possible. Empty the basin and put in fresh starch for the next. The reason for this is obvious, for if the curtains are wrung out, the one after the other, the starch will gradually get thinner.

### Dry Quickly.

The curtains ought to be dried quickly. Hang them over a clothes line exactly in halves, following the pattern along the center, peg quite evenly and securely, and then draw the scalloped edges out carefully and see that they hang right opposite to one another. Given a good drying day, half an hour or an hour, at most, will be sufficient time to leave them on the line.

They should be gently pulled into exact shape, folded into quarters, putting the scalloped edges neatly together, and run through a mangle. They are now ready to be hung and will look like new.

Mangles are most useful and as we always use one, perhaps a few words on how to care for a machine may prove helpful. Apply a few drops of oil to each bearing every time the machine is used. The rollers must be dry when in use. When through with the machine release the pressure from the rolls by loosening the springs. When not in use cover the mangle with a blanket, or some other covering to keep dust from the machine.

When mangling the clothes take them from the line while damp or just before they are quite dry, and fold them straight without wrinkles. Do not sprinkle quite as much as for regular ironing, if the clothes are dry. Leave them folded for a couple of hours, so that the dampness will become even.

After mangling put the goods on a clothes rack or similar article to dry before they are packed away. Large pieces, such as tablecloths and sheets should be folded twice with the hems at the ends and fed into the machine straight and lengthways, care being taken that they do not wrinkle in going through the machine.

Bring them back through the machine and fold in the middle, putting them through and back again. They should be folded to the size desired. Small pieces, such as napkins and towels, may be mangled first flat and put through the machine again at each fold until folded to the size desired.

If lace curtains have had an accident or are worn in holes, do not attempt to darn them. A much better plan is to cut a piece the required size from an old curtain, dip it in starch, then press it over the rent with a hot iron. The defective part will thus be invisibly mended until next washing day.

### Muslin Curtains.

Muslin curtains are a little more troublesome to do up than lace, inasmuch as they require to be ironed. The washing should be done the same as the lace, but the rinsing operation must be very carefully performed.

After blueing them it is a good plan to rinse them again in clean, cold water. This gives them a beautifully clear color, not at all suggestive of the blue bag.

Should the curtains be at all inclined to be yellow, or if they are very much soiled, they may be allowed to stand for twenty-four hours in cold water to bleach.

The starching must be carefully attended to and after the curtain is squeezed out of the starch, it should again be dipped into fresh clear water, squeezed and well clapped between the hands before it is dried. This removes all extraneous particles of starch and preserves the clear and semi-transparent look on which their beauty depends.

After the curtains are taken from the clothes line they should be very carefully folded, rolled tightly, and left for three or four hours before ironing. It will be understood that they are not left on the line to get bone dry and hard, but just dry enough for ironing.

---

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The London "Lancet," the leading medical journal of the world, says that the best and simplest fly-killer is a weak solution of formaldehyde in water (two teaspoonfuls to the pint). Place in plates or saucers throughout the house. Ten cents worth of formaldehyde will last an ordinary family all summer. It has no offensive smell, is fatal to disease organisms, and is practically non-poisonous except to insects.

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---

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Prices, specifications, hydraulic data and general information furnished upon request

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Sept. 29, 1909.

### Butter.

Butter has taken another advance and now stands at 70 cents for extras. Lower grades have not advanced. Market not strong.

**Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.**

| | |
|---|---|
| Creamery per roll | 67½@70 |
| Dairy per roll | 30 |
| Eastern creamery per roll | 67½ |
| Cooking | 27 |
| Ladles | 25@26 |

### Cheese.

| | |
|---|---|
| Anchor large | 20 |
| Northern fresh | 18 |
| Anchor Young America | 21 |
| Domestic Swiss | 23 |
| Imported Swiss | 31@32 |

### Eggs and Poultry.

No fluctuation in eggs in the past seven days. Market firm with case counts held two cents in advance of following quotations:

Paying price f. o. b. L. A. is:

| | |
|---|---|
| Eggs | 41@43 |
| Case count buying price | 38 |
| Eastern | 34 |
| Storage | 32 |

Dealers pay for live poultry f. o. b. L. A.:

| | |
|---|---|
| Hens per pound 3½ up | 17 |
| Stags and old roosters | 8 |
| Fryers 2 to 2¾ lbs. | 16 |
| Broilers 1¼ to 2 lbs. | 19½ |
| Roasters 3 lbs and up | 16 |
| Turkeys | 19@22 |
| Geese | 12 |
| Ducks | 12@13 |
| Squabs | 1.25@1.75 |

### Live Stock.

**The following quotations are f. o. b., Los Angeles, on all stock.**

| | |
|---|---|
| Hogs from 175 to 200 pounds | 7½ |
| Prime steers | 4@4¼ |
| Heifers | 3½@3¾ |
| Calves per pound | 5 |
| Sheep ewes per head | 3.75@4.00 |
| Lambs per head | 3.25@3.50 |
| Wethers | 4.50@5.00 |

### Potatoes.

Wholesale prices are:

| | |
|---|---|
| Yellow sweets per ctl | 1.50@1.75 |
| Burbank local | 1.25 |
| Highlands | 1.10@1.25 |
| Lompocs | 1.60@1.65 |

### Onions.

Wholesale quotations:

| | |
|---|---|
| Silverskins, local | 1.10 |
| Northern Yellow Danvers | 1.25@1.35 |
| Australian Browns per sack | 1.25@1.35 |

### Vegetables.

| | |
|---|---|
| Artichokes locals | 75 |
| Beets per sk | 90 |
| Beans string | 5@6 |
| Brussels sprouts per lb. | 10 |
| Bell peppers | 3@4 |
| Cabbage, per sack | 1.00@1.25 |
| Celery per doz | 50@60 |
| Chili per lb | 3@4 |
| Cucumbers per box | 40 |
| Cauliflower per doz | 1.25 |
| Carrots per sk | 90 |
| Corn per box | 50@60 |
| Egg plant per lb. | 3@4 |
| Green onions per doz bunches | 20 |
| Hubbard squash per lb | 2½ |
| Summer squash per box | 40 |
| Lettuce choice | 1.00@1.25 |
| Oyster plant | 40 |
| Okra per lb | 5@6 |
| Peas per lb. | 5@6 |
| Parsley doz | 25 |
| Parsnips | 40 |
| Radishes per doz | 15@20 |
| Rhubarb, No. Strawberry | 1.50 |
| Rhubarb, crimson winter | 5@6 |
| Spinach per doz. | 15@20 |
| Turnips sk | 90 |
| Tomatoes lugs | 30@40 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 2.25@3.00 |
| Grapefruit | 2.65@3.50 |
| Lemons, halves | 2.00@2.25 |
| Limes, halves | 1.50@2.00 |

### Fresh Fruits.

Wholesale prices on the market are:

| | |
|---|---|
| Alexanders | 1.00@1.75 |
| Bellefleurs | 90@1.25 |
| Fall Pippins | 75@1.25 |
| Pearmains Red | 1.25@1.35 |
| Gravensteins | 90@1.50 |
| Casabas per crate | 50@1.00 |
| Cantaloupes Jumbos | 1.50@2.00 |
| Christmas melons | 2.00 |
| Figs | 1.00@1.10 |
| Grapes lug box | 50@75 |
| Loganberries | 8 |
| Nectarines | 7@8 |
| Peaches, per box | 60@75 |
| Pears Bartletts box | 2.25 |
| Plums | 1.00@1.25 |
| Pomegranates | 1.00@1.25 |
| Quinces | 75@90 |
| Raspberries | 10 |
| Blackberries | 8 |
| Strawberries | 6@8 |
| Watermelons per lb. | 1 |

### Dried Fruits.

Wholesale prices are:

| | |
|---|---|
| Apricots | 10@11 |
| Evap apples fy per lb | 11 |
| Figs loose | 5 |
| Peaches | 5@7 |
| Pears | 7@8 |
| Plums pitted | 7@8 |
| Nectarines | 7@9 |
| Prunes | 4½@7½ |

### Beans Dried.

Wholesale prices are:

| | |
|---|---|
| Pink No. 1 | 3.50@3.60 |
| Limas per ctl | 4.50 |
| Black eyes | 4.00@4.25 |
| Lady Washington | 4.25 |
| Small White | 5.00 |
| Garvanzas | 4.50 |
| Lentils | 6.00 |

### Nuts.

| | |
|---|---|
| Almonds IXL per lb. | 15@17 |
| Pecans polished | 15@16 |
| Peanuts California | 5 |
| Peanuts Eastern | 7 |
| Walnuts No. 1 | 12@15 |
| Walnuts No. 2 | 9@10 |
| Walnuts grafted | 15 |

### Honey.

Wholesale quotations:

| | |
|---|---|
| Extracted water white | 7½@8 |
| Extracted Light Amber | 5½@6 |
| Comb Water White | 15 |
| Comb, white | 12½ |
| Beeswax | 25 |

### Hay.

| | |
|---|---|
| New Barley hay | 8.50@14.00 |
| Alfalfa, local | 11.00@12.00 |
| New alfalfa Imperial | 10.00@11.00 |
| Northern | 10.50@12.00 |
| Wheat hay | 10.00@12.50 |
| Tame oat | 10.00@15.00 |

### Grain.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Wheat new per ctl | 1.90@1.95 |
| Kaffir corn | 2.00 |
| Corn Eastern bulk | 1.75 |
| Egyptian corn | 1.80 |
| White oats | 1.75 |
| Seed Rye | 2.10 |

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Cracked corn | 1.80 |
| Shorts | 1.85 |
| Bran | 1.60 |
| Cocoanut cake | 1.35 |
| Coceanut meal | 1.85 |
| Cottonseed meal | 1.25 |
| Oil cake meal | 1.85 |
| Feed meal | 1.85 |
| Rolled Barley | 1.50 |

## San Francisco Markets

SAN FRANCISCO, Sept. 28, 1909.

### Butter.

Butter is firm, though there is no large movement. In fact a half cent decline is noted during the week.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

| | |
|---|---|
| California extras per lb. | 32 |
| Cal. firsts | 30 |
| Californa seconds | 28½ |
| Packing | 25 |

### Cheese.

| | |
|---|---|
| California flats | 14½@15½ |
| Cal. Young America fy | 15@16 |
| Young American Oregon fy | 17 |

### Eggs and Poultry.

An advance of 3 cents is to be noted this week with a firm condition.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

| | |
|---|---|
| Fresh ranch extras | 43½ |
| Firsts | 34 |
| Seconds and thirds | 24@30 |
| Hens per doz | 5.00@12.00 |
| Roosters per doz | 4.00@10.00 |
| Fryers per doz | 5.50@6.50 |
| Broilers | 3.00@5.00 |
| Geese per pair | 2.00@2.25 |
| Ducks | 4.00@8.00 |
| Turkeys | 19@25 |
| Pigeons young | 1.00@2.25 |

### Live Stock.

San Francisco prices gross weight:

| | |
|---|---|
| Steers | 2¾@4⅜ |
| Cows and heifers | 2@3⅜ |
| Hogs | 4½@7¼ |
| Calves per lb | 4@5¼ |
| Milk lambs | 5¼@5½ |
| Wethers No. 1 | 4¼ |
| Ewes No. 1 | 3¾ |

### Potatoes.

Wholesale market quotations:

| | |
|---|---|
| River Whites | 60@75 |
| Salinas | 1.25@1.50 |
| Sweets crates | 1.60@1.75 |
| Oregons | 1.15@1.25 |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Asparagus per box | 50@1.00 |
| Bell peppers per box | 50@60 |
| Cabbage per box | 2.00@2.25 |
| Cauliflower doz. | 75@1.00 |
| Carrots per sk | 65@75 |
| Cucumbers per box | 50@65 |
| Celery, doz | 25@30 |
| Chili peppers per box | 40@75 |
| Corn per sk | 75@1.25 |
| Egg plant per box | 50@75 |
| Green peas per lb. | 4@5 |
| Okra | 25@40 |
| Onions green per box | 50@60 |
| Rhubarb per box for bay | 1.25@1.50 |
| Squash per box | 40@65 |
| String beans | 2@5 |
| Tomatoes | 25@60 |
| Wax beans | 3@4 |
| Lima beans | 5@6 |
| Garlic | 4½@5 |

### Onions.

| | |
|---|---|
| Yellow onions | 60@70 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 1.50@3.00 |
| Grapefruit | 1.00@3.25 |
| Lemons | 1.25@4.50 |
| Limes | 5.50@6.50 |

### Fresh Fruits.

| | |
|---|---|
| Bellflowers | 90@1.50 |
| Gravensteins | 90@1.50 |
| Figs blk box | 25@60 |
| Grapes seedless | 40@60 |
| Tokays | 40@60 |
| Malagas | 50@65 |
| Rose of Peru | 50@60 |
| Cornichon | 60@70 |
| Muscats | 40@50 |
| Isabellas | 60@75 |
| Zinfandel and wine grapes per ton | 8.00@14.00 |
| Logans per chest | 3.00@4.00 |
| Cherry plums per box | 25@35 |
| Peaches per lug box | 75@1.00 |
| Peaches per lug box clings | 50@85 |
| Plums boxes | 50@65 |
| Pears Bartletts | 75@1.75 |
| Cantaloupes | 75@1.00 |
| Nutmegs per box | 25@60 |
| Pears box | 60@1.50 |
| Pomegranates | 50@2.25 |
| Quinces box | 50@1.00 |
| Blackberries per chest | 2.00@3.00 |
| Huckleberries per lb. | 10@12½ |
| Raspberries per chest | 4.00@6.00 |
| Strawberries per chest | 2.50@4.00 |
| Watermelons per doz | 1.00@2.00 |

### Dried Fruits.

| | |
|---|---|
| Prunes 4-size basis | 2¼ |
| Santa Clara | 2⅜ |
| ¾ cent premium for larger sizes.. | |
| Apricots per lb. | 10@13 |
| Peaches—Choice 5¼; Fancy | 8½ |
| Apples evap | 5½@9¾ |
| Pears | 6@9 |
| Figs | 2½@4½ |
| Nectarines | 5@6 |
| Plums | 7@8 |
| Apples | 7½@8½ |

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do, No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12, 3⅜c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached, 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

| | |
|---|---|
| Walnuts soft shell | 12½ |
| Hard shell | 6@8½ |
| Ne Plus Ultra | 12¾@13¼ |
| Almonds '09 N P U | 12¾@13¼ |
| Almonds '09 nonp | 14½ |
| Almonds '09 I X L | 13½@14 |
| Pecans | 15@17 |
| Chestnuts | 2@10 |
| Peanuts | 5@6 |
| Pine nuts | 22½@25 |

### Beans Dried.

| | |
|---|---|
| Limas | 4.10 |
| Pink | 3.10 |
| Small white | 4.50 |
| Large white | 3.25 |
| Black eyes | 4.00 |
| Red kidneys | 4.00 |
| Garvanzas | 3.00 |
| Bayo | 4.00 |
| Horse Beans | 2.00 |
| Cranberry | 4.25@4.50 |

### Hops.

| | |
|---|---|
| Hops 1909 crop | 20@22 |
| Hops 1908 crop | 13@16 |
| Old | 11@14 |

### Honey.

| | |
|---|---|
| White comb | 14@15 |
| Light Amber | 10@12 |
| Extracted W W | 7½ |
| Extracted light amber | 6½@7 |
| Beeswax per lb | 25@29 |

### Hay.

Scott, Magner & Miller Say:

There has been received on the San Francisco market for the week just ended 5000 tons of hay. This is 1000 tons in excess of what we received during the preceding week. A large part of this amount consisted of alfalfa hay and of the poorer varieties of horse hay.

The market has remained about as reported a week ago. The medium and poorer varieties of hay being dull and neglected, and difficult to dispose of satisfactorily, while the higher types of hay have been in better favor, and in some instances sales at above our quoations have been made.

It is usually the case that when hay first begins to move from the storage warehouses in the country at this period of the season, the market advances sufficiently to cover the additional costs of storage, insurance, etc., but it is a question this year whether this natural advance may be looked for under the prevailing conditions.

Alfalfa hay is being rushed in from every section, and the market on this article is decidedly weak and no tendency on the part of buyers in the country to take in any round lots.

This week's quotations are:

| | |
|---|---|
| Choice wheat hay | 18.50@19.50 |
| No. 1 wheat or wheat & oat | 17.00@18.00 |
| No. 2 wheat or wheat & oat | 14.00@15.00 |
| Choice tame oat | 16.00@17.00 |
| Other tame oats | 14.00@15.00 |
| New crop wild | 11.00@15.00 |
| Stock hay | 8.00@9.00 |
| Alfalfa | 10.00@13.50 |
| Straw | 55@65 |

### Grain.

| | |
|---|---|
| Wheat No. 1 | 1.70@1.75 |
| Barley | 1.30@1.40 |
| Oats white | 1.60@1.65 |
| Oats gray | 1.60@1.65 |
| Rye new crop | 1.70@1.75 |
| Corn Egyptain | 1.60@1.65 |
| Cal sm round | 1.80@1.82½ |
| Alfalfa seed, Cal. | 16@18 |
| Mustard brown | 3¾@4½ |
| Millet | 2½@3 |
| Flaxseed | 4 |
| Broom corn seed per ton | 23.50 |

### Feed Stuff.

| | |
|---|---|
| Bran per ton | 29.00@30.00 |
| Feed cornmeal per ton | 39.00@40.00 |
| Cracked corn per ton | 40.00@41.00 |
| Rolled barley per ton | 30.00@31.00 |
| Rolled oats per ton | 38.00@41.00 |
| Oil cake per ton | 38.50@40.00 |
| Cocoanut cake per ton | 25.00 |
| Middlings | 36.00@37.50 |
| Mixed feed per ton | 25.00@30.00 |
| Shorts | 31.50@33.00 |

## Citrus Market

LOS ANGELES, Sept. 29, 1909.

The Valencia market seems to be dragging the past few days, owing principally to the large number of small sizes and also to poor quality of some of the shipments. There are perhaps 300 cars yet in California to be cleaned up in the next four weeks. If the present rate of shipment is continued they will be cleaned up even before the first of November.

Lemons are higher and the market is very good. All stock going forward now is new and of exceptionally good quality. Shipments are very light, not exceeding eight to a dozen cars a day. Every promise is for good returns for some weeks.

### Shipments.

Total shipments of citrus fruit since November 1st, 1908; 37,123 cars, of which 31,109 were oranges and 6,014 lemons. To same date last season there was a total of 28,886 cars, of which 24,300 were oranges and 4,586 lemons.

---

ST. LOUIS, Sept. 24.—Weather favorable. Market firm on good fruit. Three cars sold.

| VALENCIAS— | Avge. |
|---|---|
| Hunter, A.-C.-G. Ex. Glendora | 1.95 |
| Pointer, A.-C.-G. Ex. Glendora | 3.50 |

LEMONS—

Pride of Corona, Queen Colony Ex. 1.90
Grove, Queen Colony Ex., Corona..1.25
Corona Beauty, Queen Colony Ex..3.50

---

CLEVELAND, Sept. 24.—One car Valencias and one car lemons sold. Market is unchanged on Valencias, steady on lemons. Cool.

| VALENCIAS— | Avge. |
|---|---|
| La Mesa, Riverside Ex., Riverside | 3.00 |
| Golden Rule, Riverside Ex., Riv. | 2.45 |
| California Orange, Riverside Ex., Riv. | 1.90 |

LEMONS—

Airship, V. C. Ex., Fillmore.....2.20

---

CINCINNATI, Sept. 24.—Cool. Market strong on Valencias, steady on lemons. One car Valencias and one car lemons sold.

LEMONS—

Pet, San Antonio Exchange.....2.65
Greyhound, San Antonio Exchange 2.45
Arab, San Antonio Exchange.....2.85
Duck, San Antonio Exchange.....2.10

VALENCIAS—
Choice, Semi-Tropic, Ex., Downey.2.95

BOSTON, Sept. 24.—Two cars sold. Raining. Market unchanged.

| VALENCIAS— | Avge. |
|---|---|
| Don Quixote, Semi-Tropic Ex., Alh. | 1.90 |
| Planet, Sunset Ex., Orange | 2.80 |

PHILADELPHIA, Sept. 24.—Two cars Valencias and one car lemons sold.

| VALENCIAS— | Avge. |
|---|---|
| Golden, Riverside Ex., Riverside | 2.30 |
| Old Oak, Tustin Packing Co | 2.90 |
| Purity, Tustin Packing Co | 3.10 |
| Lucky, Tustin Packing Co | 2.30 |
| LEMONS— | |
| Coyote, O. K. Exchange | 2.05 |
| Blue Jay, O. K. Exchange | 2.05 |

PITTSBURG, Sept. 24.—One car sold. Market steady on Valencias. Weather cool.

| VALENCIAS— | Avge. |
|---|---|
| Searchlight, Sunset Ex., Orange | 2.50 |
| Sunset, Sunset Ex., Orange | 1.90 |

NEW YORK, Sept. 27.—Fifteen cars oranges sold. Market easier, lower. Weather unfavorable, raining—cool.

| VALENCIAS— | Avge. |
|---|---|
| Pilgrim, R. J. Richardson | 3.00 |
| Buena, R. J. Richardson | 2.45 |
| Plain Ends | 1.60 |
| Old Mission, Chapman | 4.45 |
| Golden Eagle, Chapman | 2.85 |
| San Rafael, N. W. Bailey | 2.60 |
| San Pasqual, N. W. Bailey | 1.95 |
| Purity; Tustin P. Co. | 2.90 |
| Old Oak, Tustin F. Co. | 2.30 |
| Lucky, Tustin P. Co. | 1.85 |
| Orchard, National O. Co. | 2.65 |
| Standard, National O. Co. | 2.05 |
| Swastika, L. V. W. Brown | 2.50 |
| Cerrito, L. V. W. Brown | 3.00 |
| Ibex, S. T. Rivera | 2.80 |
| Rivera, S. T. Rivera | 2.10 |
| Carnation, M. & G. Co. | 2.85 |
| Daisy, M. & G. Co., | 1.85 |
| A One, E. Peycke Co. | 2.40 |
| Carmencita, S. T. Ex. | 3.15 |
| Violet, D. M. Ex. | 2.65 |
| Butterfly, Covina Ex. | 2.25 |
| Queen Bee, Q. C. Corona | 2.50 |
| Royal, Q. C. Corona | 2.15 |
| Halo, C. C. U. | 2.15 |
| El Toro, C. C. U. | 1.75 |
| Titus Ranch, San Marino G. P. A. | 2.55 |
| Dos Palmos, San Marino G. P. A. | 1.50 |

GRAPEFRUIT—Cerrito halves, $2.40; Plainends, $2.20; Old Mission, $4.20; Golden Eagle, $3.50; Orchard halves, $1.65.

NEW YORK, Sept. 24.—(Delayed wire)—Four cars oranges sold. Market easier. Weather unfavorable, cool, raining.

| VALENCIAS— | Avge. |
|---|---|
| Cerrito, L. V. W. Brown | 3.25 |
| Swastika, L. V. W. Brown | 2.65 |
| Blue C., Covina Exchange | 2.45 |
| Cougar, Covina Exchange | 1.85 |
| Whittier, S. T. Whittier | 2.80 |
| Old Mission, Chapman | 4.80 |
| Golden Eagle, Chapman | 2.95 |

PITTSBURG, Sept. 27.—Four cars sold. Market very steady on both oranges and lemons. Weather cool.

| VALENCIAS— | Avge. |
|---|---|
| Premium, Benchley F. Co. | 3.30 |
| Colombo, S. T. Fullerton | 3.00 |
| Niagara, Stewart F. Co. | 3.25 |
| Lincoln, A. H. Casa Blanca | 2.75 |

GRAPEFRUIT—Victoria, $2.75.

ST. LOUIS, Sept. 27.—Weather favorable. Market strong on Valencias—overstocked with poor quality lemons. Four cars sold.

| VALENCIAS— | Avge. |
|---|---|
| Coyote, O. K. Ex. | 2.35 |
| Pointer, A. C. G. Charter Oak | 2.30 |
| Searchlight, S. S. Orange | 2.30 |
| Blue Jay, O. K. Ex. | 1.60 |
| Hunter, A. C. G. Charter Oak | 2.45 |
| Sunset, S. S. Orange | 2.35 |
| LEMONS— | Avge. |
| Camel, Q. C. Corona | 2.00 |
| Family, Q. C. Corona | 1.80 |

BOSTON, Sept. 27.—Five cars sold. Cool. Market unchanged.

| VALENCIAS— | Avge. |
|---|---|
| Lincoln, A. C. G. Azusa | 2.30 |
| Pointer, A. C. G. Azusa | 2.75 |
| Belt, R. H., E. High | 1.80 |
| Majestic, C. S. Spencer | 2.70 |
| Navajo, A. H. Casa Blanca | 1.75 |
| Gold Buckle, R. H., E. High | 1.80 |
| Majestic, C. S. Spencer | 2.60 |

GRAPEFRUIT—Gold Buckle, $1.85; Victoria, $3.05.

CLEVELAND, Sept. 27.—One car Valencias sold. Market higher. Weather cold.

| VALENCIAS— | Avge. |
|---|---|
| Pico, S. T. Ex., Whittier | 2.35 |

CINCINNATI, Sept. 27.—Cool. Market strong on Valencias. Two cars sold.

| VALENCIAS— | Avge. |
|---|---|
| Searchlight, S. S. Orange | 2.70 |
| Sunset, S. S. Orange | 2.25 |

PHILADELPHIA, Sept. 27.—Five cars Valencias sold.

| VALENCIAS— | Avge. |
|---|---|
| Greyhound, S. A. Ex. | 2.15 |
| Palm Tree, A. H. Prenda | 1.90 |
| Mocker, Spence F. Co. | 2.45 |
| Bunker Hill, Cal. Cit. U. | 1.95 |
| Squirrel, A. H. Prenda | 2.30 |
| A One, E. Peycke Co. | 2.30 |
| Deal, E. Peycke Co. | 2.30 |

## RULES FOR DEALING WITH THE FLY NUISANCE.

Keep the flies away from the sick, especially those ill with contagious diseases. Kill every fly that strays into the sick room. His body is covered with disease germs.

Do not allow decaying material of any sort to accumulate on or near your premises.

All refuse which tends in any way to fermentation, such as bedding straw, paper waste, and vegetable matter, should be disposed of or covered with lime or kerosene oil.

Screen all food, whether in the house or exposed for sale.

Keep all receptacles for garbage carefully covered and the cans cleaned or sprinkled with oil or lime.

Keep all stable manure in vault or pit, screened or sprinkled with lime, oil or other cheap preparations, such as are sold by a number of reliable manufacturers.

See that your sewage system is in good order; that it does not leak, is up to date and not exposed to flies.

Pour kerosene into the drains.

Burn or bury all table refuse.

Screen all windows and doors, especially in the kitchen and dining room.

If you see flies, you may be sure that their breeding place is in nearby filth. It may be behind the door, under the table or in the cuspidor.

If there is no dirt and filth there will be no flies.

If there is a nuisance in the neighborhood write at once to the health department.

## THE GREATEST MAN THAT EVER LIVED.

Teacher—Johnny, who was the greatest man that ever lived?

Johnny—I don't know for sure, but I think it was ma's first husband.—Exchange.

Slamming the door of the oven makes the cake fall.

All canned fruit should be kept in a cool dark place.

Drop a little lump of sugar among the turnips while cooking; it improves them wonderfully.

Curate—And so, Mrs. Howard, you come to church every Sunday?

Mrs. Howard—Yes, Mr. Priestly, we're such strangers in town yet that we have no other engagements.—Brooklyn Life.

Steadily the rain is falling,
In the sky no blue appears;
But the sun is just behind the
Prism of those crystal tears.
—Margaret Sangster.

## USING THE SIMPLES.

(Continued from Page 316.)

also needed by the fruit, therefore it is well to mix the three ingredients together and work well into the soil, either late in the fall or early in the spring.

There are few crops that respond more readily and profitably to an application of nitrate of soda than citrus fruits. It may be used liberally when there is a lack of new wood growth, where the foliage is small and pale and where the fruit is undersized. Good results will follow two or more applications but one of them should be made early in the spring before blossoming time. If the rains will allow, a couple of pounds per tree should be applied to the soil, even if there is a cover crop, directly under the branches, and within a radius of one foot of the body of the tree. This should be spaded under. This application should be made in February. Just before the blossoms are fully developed, two or three more pounds may be distributed between the rows and cultivated in. Some find an advantage in using a couple more pounds about the time the young fruit is the size of a pea. The latter application may be made no nearer than four feet to the body of the tree, and worked in the soil by means of a harrow or cultivator.

### Not Easily Lost.

Recent experiments have proven conclusively that, notwithstanding its solubility, nitrate of soda does not leach out of the soil readily. The capillary attraction of the soil, when in good tilth, will retain it until the plants uses it. Therefore, if more convenient, a heavy application just before blossoming time, may suffice.

### Immediate Action.

Nitrate is of special value in forcing rapid development and early maturity of garden crops. A hundred pounds per acre should be worked into the soil just before the seed is planted, and other applications of from fifty to seventy-five pounds per acre may be applied between the rows and cultivated in between three and six weeks later. When the farmer has a barrel or tank spraying outfit, a solution can be made of nitrate and applied between the rows.

Recent experiments made in the asparagus fields of California have demonstrated the value of nitrate for that crop, even when it is grown on reclaimed marsh lands. An application should be made late in the winter before the new shoots start to grow; also after the cutting 100 pounds per acre can be advantageously used to promote a new top growth. The success of the next year's crop depends on having a good top growth during the late summer. As stated in the beginning of this article, the three elements, nitrate of soda, phosphoric acid and potash, are necessary to produce the maximum crop. One cannot take the place of another and all three must be present, either naturally or applied, if the high-producing qualities of the soil are maintained.—C. L. Watson.

## DETERMINATION.

"Why don't you get rid of that mule?"

"Well, suh," answered Mr. Erastus Pinkley, "I hates to give in. If I was to trade dat mule off he'd regard it as a personal victory. He's been trying foh de las' six weeks to get rid o' me."—San Francisco Star.

# Business Notes

The most timely feature of the October Century is the Clermont chapter of "Fulton's Invention of the Steamboat," written by the inventor's great-grandmother, Mrs. Alice Crary Sutcliffe. This second of two valuable historical articles is devoted to the Clermont's making, launching and history; and the narrative includes many of Fulton's own letters and manuscripts now published for the first time, in addition to autographic plans for the Clermont, recently discovered. Other timely articles of the number include Mr. A. Barton Hepburn's discussion of the question, "Is a Central Bank Desirable?" contrasting the rigidity of the United States currency with the flexibility of the currency of other nations; also two articles on the growing use of the "finger print" system of identification in governmental and business circles. Charles B. Brewer tells of their use in the United States navy and elsewhere; and Jay Hambidge has much of interest to say on the remarkably successful use by the New York police of this new method of identifying criminals.

### A VALUABLE POULTRY BOOK FREE

A book which no owner of fowls can afford to be without, is the brand new, 1910, enlarged edition of Conkey's Poultry Book, for it is full of practical directions boiled down to ordinary common sense by men who know the poultry-raising business from A to Z. It goes at the subject without gloves and rips the false, the frivolous, and the non sensical, from the solid facts and gives you good, practical money-making suggestions for all that the poultry raiser needs to know.

This valuable work is sent absolutely free if you will pay the postage and name the party from whom you purchase your poultry supplies. Send four cents in stamps for postage. The edition is limited and they are going like hot cakes. The name and address of the firm issuing them is The G. E. Conkey Company, Dept. F. 3, Cleveland, Ohio.

## SMALL CUCUMBER PICKLES.

For this none of the gherkins should be more than three inches in length. Lay them in alternate layers with salt in a large crock and pour in enough cold water to cover all, weighting the gherkins down with a large plate, on which is laid a stone. The pickles should be kept in the brine for ten days and stirred from the bottom every other day. At the end of the appointed time pour off the brine and pick over the gherkins. Throw away those that are decayed and soak the others in fresh water for two days. Your next step is to green the pickles by lining your kettle with grape leaves, arranging on this the cucumbers in layers, sprinkling a pinch of powdered alum over each layer. One teaspoonful is enough for a large kettle. Cover the pickles with cold water. Lay three thicknesses of grape leaves over them, cover closely and cook slowly for six hours. Take out the pickles and throw into very cold water. Make a pickle vinegar of four quarts of vinegar a cupful of sugar, three dozen each of whole black peppers and whole cloves, 12 blades of mace, 18 whole allspice and boil together for five minutes. Drain the gherkins from the water, pack them into jars and pour the scalding vinegar upon them. Keep in a dark closet and do not use for at least two months.—Portland Oregonian.

Freshman—Who is the smallest man mentioned in history?

Sophomore—I give up.

Freshman—Why, the Roman soldier who slept on his watch.—University of Pennsylvania Punch Bowl.

90 H. P. "Western" Pumping Water for Western Water & Power Co., Glendora, Cal.

# A Vast Difference

exists between "good enough" and "the best." There are any number of gas engines which are "good enough" for many purposes and people, but only "the best" should be considered for any high class proposition.

The **WESTERN** is the best gas engine built on the Pacific Coast, and while the first cost is of course more than that of the very cheap engines, yet it is no more than that of any standard engine, and this necessary difference in price is soon liquidated by the greatly lessened cost of fuel and repairs, after which your engine is a paying investment and a constant source of satisfaction to you.

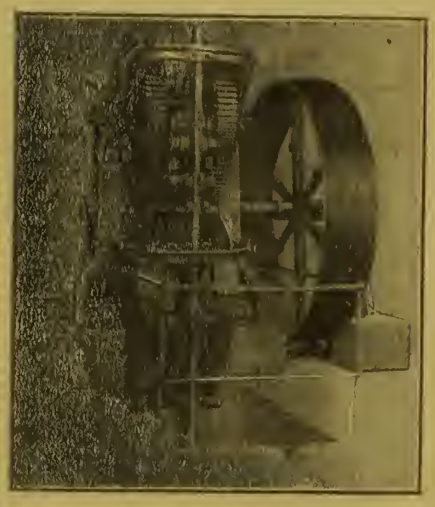
The **WESTERN** saves 25% in fuel cost over other makes, being able—by reason of its special patented features—to develop a horse power hour with the least amount of the cheapest fuel.

With the Nix-Frost Crude Oil Gas Producer (Patented) a gallon of **Crude Oil** has the same power value as a gallon of Distillate. Ask us about it.

## Western Gas Engine Company

**Northern Branch: 461 Market St., San Francisco, Cal.** **Los Angeles, Cal.**

# The Smooth Running, Noiseless Pomona Deep Well Pump



It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

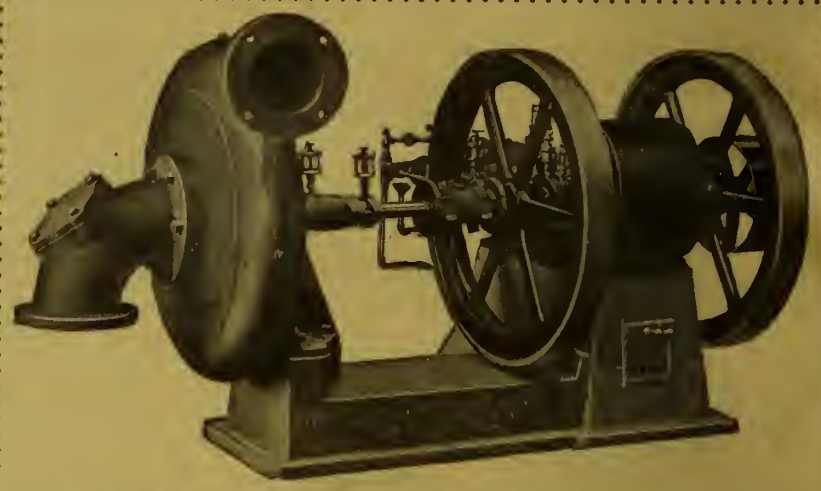
This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.

## POMONA MANUFACTURING CO.

**POMONA, CALIFORNIA**



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CENTRIFUGAL PUMP DIRECT, CONNECTED TO GASOLINE ENGINE. WRITE FOR BULLETIN 32.

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**LOS ANGELES** 212 N. Los Angeles St.
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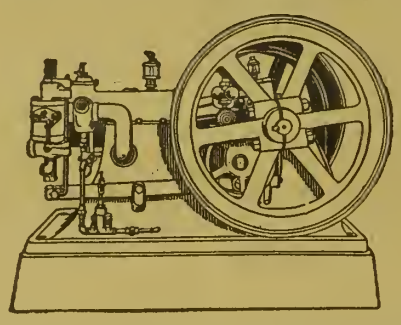
# Alamo and Union Distillate Engines

**New Stock just Received**

**Strong**

**Economical**



**Easily Operated**

**Prices Right**

Electric, Steam and Gasoline Irrigating Plants Installed.
We buy sell, exchange and rent machinery.

## Bailie & Brandt Company

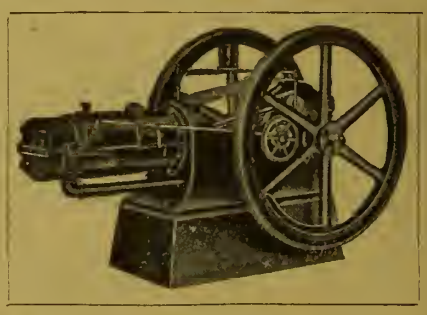
ENGINEERS

**Office and Works, 943 N. Main St., Los Angeles**

Write for particulars.

# Not too Heavy Not too Light But Just Right

Send for Bulletin No 12.



## COMMERCIAL ENGINE CO.

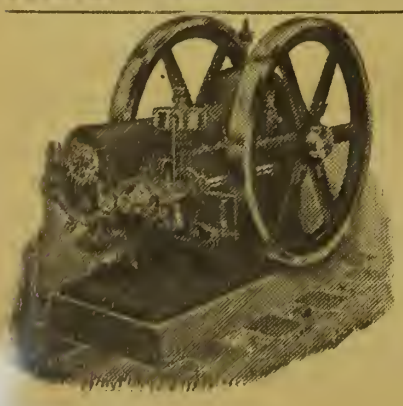
**951-955 No. Main St., Los Angeles, Cal.**

# Second Hand Irrigating Plants

Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

## Western Machinery Company

**230 Main Street, San Francisco, Cal.**



# Another New Gas Engine

Is amongst us and if you are in need of power you should investigate this one. You will find that it possesses the most desirable features of all the old timers and the price is right. Plenty of catalogues for distribution.

***Henshaw-Bulkley & Co.***

**262-264 So. Los Angeles St., Los Angeles**

From photograph showing amount of

## Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

## "K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

**THE KELLAR-THOMASON MFG. CO., Covina, Cal**

# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles October 7, 1909 San Francisco

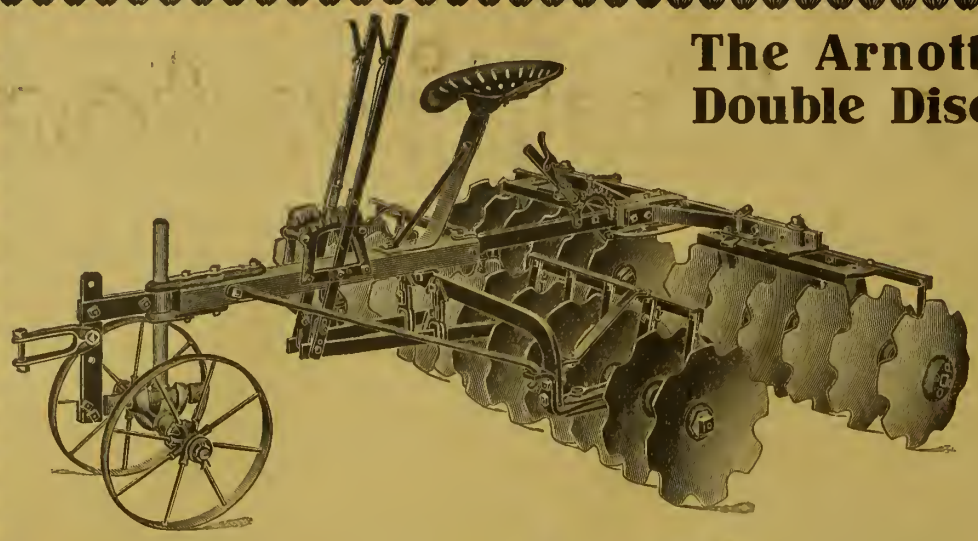

## Walnuts Which May Prove of Great Value

Leaf and Nuts of Concord

Concord.

Concord Nuts.

"San Jose" Mayette



## The Arnott-Imperial Double Disc Harrow

The original steel frame double disc harrow. Do not be misled by imitations. Eight-page descriptive and illustrated circular sent on request. Write today.

**Arnott & Co., Los Angeles, Cal.**

Second Hand

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**And Casing**

All sizes of pipe, also fittings and valves. All our pipe and casing has newly cut threads and new couplings attached, ready for immediate use; hot asphaltum dipped and guaranteed good as new. Prompt delivery on carloads or less. Small orders receive same close attention as large ones. We have two big up-to-date plants and experienced workmen. We buy for cash and sell for cash. We conduct a large business at small profit. Our costomers get good pipe at a very low price. Our quality, methods and prices are such that "once a customer always a customer." Send for our price list.

**Weissbaum PIPE WORKS**

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DEALERS IN

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906-910 E. Third St.

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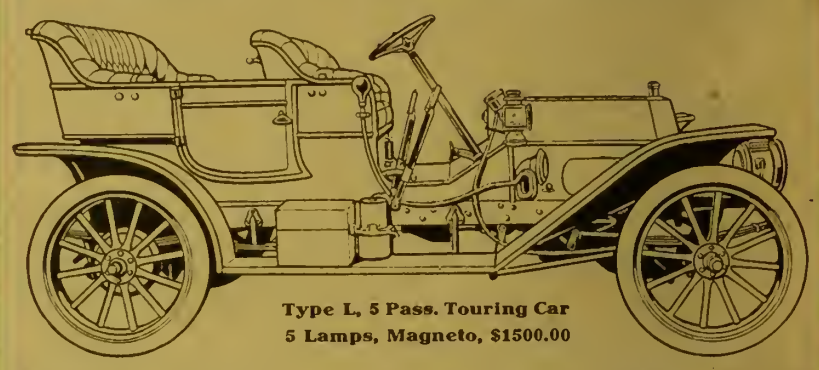
# 1910 Durocar



Type L, 5 Pass. Touring Car
5 Lamps, Magneto, $1500.00

**$200.00 More Value for $100.00 Less Is What**

you get in the 1910 Durocar. Equipped with Large Wheels, Magneto, Powerful and Simple Durocar Engines Guaranteed for One Year. You can buy direct from the California factory. Write for Free Catalogue.

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**Factory and Salesroom 933 S. Los Angeles St., Los Angeles, Cal.**

# THE A-F GRAVITY CONVEYORS

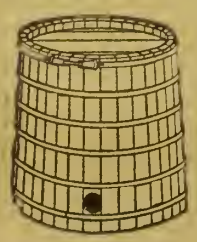
Are now required for all Fruit Packing Houses which seek to economize and systematize the handling of fruit. Trucks should be abandoned and A-F Gravity Conveyors installed for carrying boxes from packers to presses, thence to storage and cars.

**SEE THE A-F CONVEYORS IN OPERATION AT**

Tule River Citrus Ass'n., Success, Cal. Lindsay Packing House Co., Lindsay, Cal. East Highlands Fruit Ass'n., E. Highlands, Cal. Mountain View Orange and Lemon Ass'n., Upland, Cal. Pacific Coast Seeded Raisin Co., Fresno, Cal. Griffin & Skelly Co., Dinuba, Cal.

COAST AGENT
Jas. M. Pitkin, Grand Hotel, San Francisco.

## THE ALVEY-FERGUSON CO.
INCORPORATED
LOUISVILLE, KENTUCKY.



## Tanks Tanks

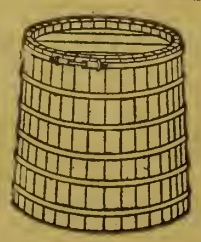
WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

**Geo. Windeler**

*Wine Tank* 144-154 Berry St. San Francisco, Cal. *Water Tank*



# NITRATE OF SODA

We are prepared to furnish Nitrate of Soda at the lowest market price, and will be pleased to quote prices and furnish literature to any one interested, on application. Advise us what crops you are interested in.

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THE BEST IN THE WORLD; HAS NO EQUAL

**The Original R.I. Knapp Side-Hill Plow**

Orchard and Vineyard Plow received first premium at State Fair.

If you cannot get our plow send us the name of your dealer and we will see that you are supplied. Has given entire satisfaction for over thirty years. Equally as good for valley as hill sides. We manufacture five sizes—from one-horse orchard and vineyard plow, to the strongest grading plow.

**SAN JOSE, CALIFORNIA** **H. G. KNAPP & SON**

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_____ 1909

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# California Cultivator

Vol. XXXIII—No. 15 Los Angeles, California, Thursday, October 7, 1909 Subscription $1 a Year

# Promising Strains of Mayettes and Franquettes

Observations on Blight Resistant Varieties. Written for the California Cultivator

By LEONARD COATES, of Morganhill.

THERE are in California two great and distinct regions for the growing of the walnut:—the Sacramento Valley and the smaller valleys all along the coast line, and more or less influenced by the moisture-laden breezes and summer fogs from the ocean. Of course no arbitrary or exact line can be drawn as separating these two districts, some of the smaller valleys debouching from the Coast Range having as warm a summer climate as the Sacramento Valley.

As to the adaptability of the coast region for successful walnut culture, it is unnecessary to enlarge thereon, because of the great proportions which the industry has assumed in Southern California, especially in Santa Barbara, Los Angeles and Ventura counties, but also up north all the way to Sonoma, in which county, and in Napa, are some of the oldest walnut trees in the state.

**In the Interior.**

The cultivation of the walnut in the interior has not been extended at present into anything approaching an industry of commercial importance, and for two reasons, first, because the farmers have not had their attention called to the walnut as a profitable crop, with facts presented to back up the statements, and, second, because of the lack of knowledge existing as to the varieties to plant.

The adaptability of the Sacramento Valley for walnut culture is unquestioned, as is substantiated at the outset by the well-known fact of the prolific growth everywhere of the species indigenous to this state, and commonly known as California black walnut. I mention this particularly because it is assumed here that all walnuts should be grafted on this native root.

**Bacteriosis**

The great bugbear which walnut growers have had before them for many years has been Bacteriosis or walnut blight, and after a long period of investigations carried on by both Government and experiment station experts, the conclusion arrived at, and so announced emphatically and publicly, is that dependence must be placed upon the discovery and propagation of varieties which are apparently immune from this disease, and which yield nuts meeting the requirements of the market.

**Immunes.**

I believe these varieties have been found, and will attempt to describe them fairly. Those who wish to investigate the matter still further are invited to visit the large bearing orchard of Mr. Ely I. Hutchinson at Concord, who grows the nut bearing that name, or the orchard of Mr. Rudolph Wiltz, 16 Lucretia Avenue, San Jose, where the "San Jose" or Improved Mayette may be seen in all its glory. Many prominent growers who have visited these orchards can vouch for the accuracy of the descriptions given.

The original tree of the Concord walnut is growing on the property of Mr. Geo. M. Westcott of Concord, and Mr. Hutchinson has grafted extensively from that tree, which originated with the late Felix Gillet. The tree is extremely vigorous, with very large foliage, and forms a rather compact well-rounded head. It is an enormous bearer, the nuts being of good size, round, smooth, and of fine quality, with light-colored pellicle, or skin. The nuts hull early and naturally, falling to the ground quite clean, and requiring no bleaching. No disease has attacked this walnut, and the original tree is 16 years old. The orchard is situated at the foot of Mt. Diablo, the summer heat often being intense, so that it would be taking no risk on account of sunburn to plant Concord in the interior. It blooms later than the Santa Barbara Soft-Shell, and varieties of that type, but not so late as Franquette or Mayette.

This is the immune variety recommended for planting in the Sacramento Valley.

**Another Improved.**

The Mayette, called by Mr. Wiltz "San Jose," to distinguish it from the ordinary variety of that name, is distinctly an 'improved" Mayette, the nut being much larger, and the tree being a better bearer. This also originated with Mr. Felix Gillet, but Mr. Wiltz named it, and has the only bearing orchard.

The tree is vigorous, open and spreading, with light foliage as compared with Concord. This is the main point constituting its great value for the Coast Region, when all its other good points are taken into consideration, as, where summer fogs occur free circulation of air and sunlight is desired to render a variety less liable to bacterial or fungous diseases. Compared with the Concord, the nut, while of the same type, is larger, although the Concord is apparently rather the heavier bearer. The "San Jose" Mayette blooms late, but it also matures its fruit early, the nuts falling to the ground smooth and clean, and not requiring to be bleached.

Both of these varieties are of the Grenoble type which is, as anyone may see by referring to market reports from France, the nut of commerce. The best market insists on a smooth, round nut, well closed at the apex, white pellicle, and good quality: both of these will answer to these requirements.

**Seedlings Unreliable.**

The Franquette, which produces rather a long, pointed nut, has been planted largely, both seedlings and grafted trees, and also trees grafted from seedlings. All seedlings are absolutely unreliable, and to graft from miscellaneous seedlings most reprehensible.

Branch of Concord Showing Dense Foliage.

Branch of San Jose Mayette.

Save for the Home at the Home Savings

**Enjoy the Safety of This Big City Bank**

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**Red Spider of the Orange**

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# Citrus and Sub-Tropical Fruits

## HORTICULTURAL CLUB MEETING.

PROBABLY five hundred people gathered at Ganesha Park, Pomona, last week, in response to the invitation of the Claremont Horticultural Club to listen to an address by Senator Frank P. Flint. The occasion was the first meeting of the year after the usual summer vacation.

Prior to the luncheon there was a discussion by Mr. S. A. Pease of San Bernardino, Mr. Beemis of Covina, Prof. Summer of Claremont, and others, as to the necessity for better work in fumigation and more intelligent inspection of orchards to keep them free of the pests which take so much from the pockets of the growers. Claremont growers have been especially insistent on what they call the block system, that is, taking a certain section, thoroughly fumigating and ridding it of insect enemies, then cleaning up the adjoining blocks, etc. Referring to this, Mr. Beemis said that in theory it was perfect, but its practical working out in a large county almost impossible. In a small community it might succeed, but the weak points in the horticultural laws so embarassed the inspectors that they could not secure uniformly careful work in a large way. The opponents of this idea advanced by Mr. Beemis insisted that the plan was worthy of a fair trial and that all pressure possible should be brought to bear on those who were backward about having careful work done. There was some diversity of opinion as to the value of the Woglum system of marking tents and fumigation, but a vote on the question called forth a unanimous endorsement. The only adverse criticism was that the cost was slightly increased, but it was the general sentiment that the greater efficiency more than offset this.

Senator Flint declared that the recently enacted tariff bill was the most effective measure ever enacted in this country. He deprecated the endeavor to discredit the framers of the bill, and reminded his hearers that it is impossible to frame any bill which will be universally acceptable; that what the Pacific Coast wants is in no wise agreeable to the New England States or the Middle West; that the ultimate bill must be the result of a policy of give and take. California would have liked a lower rate on manufactured articles, especially shoes and wollens, and other goods which she does not produce; New England would have appreciated free citrus fruits, raisins, nuts, and other California products. The Senator declared that this Coast has received more advantages from the tariff in proportion to her productions than any other section of the United States, and should be entirely satisfied with the completed bill. Wipe out this act and the protection it affords, and the citrus groves of California would be uprooted and the factories in other sections of the country would be closed. Over fifty articles named in the bill are produced in California. The Middle West really had more ground for objecting to the bill than any other part of the Union.

Senator Flint gave especial credit to the California Fruit Growers Exchange for aiding to secure protection for citrus fruits. He said that such a co-operative organization was an indication of great intelligence and that it took intelligent co-operation to direct it as a working force. It gathered together and presented to him facts and statistics which made possible the holding of the orange and the increase of the lemon tariff. He said that orange and lemon raising could no longer be classed as infant industries, and for that reason opponents of the bill insisted that they should not be protected, but Judge Call insisted that so long as American workers in other sections received protective wages, so long should the lemon and orange growers demand that their workers get a living wage.

He referred to the great difference in prices to producer and consumer, raisins for instance bringing two or three cents to the producer and selling in the retail market for fifteen. He enumerated a number of other articles to illustrate this diversity and showed that the ultimate high price paid by the consumer was caused by the great profits of wholesaler and retailer more than by any protection afforded by tariff measures.

The strongest point made by the senator was in condemning the action of the railroads in raising the freight tariff. He said that these people seemed to be drunk with their own power and intimated that their latest action would lead to the granting of greater power to the Interstate Commerce Commission by the next Congress. He declared that the example of Theodore Roosevelt had aroused the American people and instilled into them sufficient ginger to demand, and he believed to receive, from Congress protection against trusts and aggregations of large capital. In illustrating the situation brought about by this action of the railroads Senator Flint told the story of the bully who entered a bar-room and announced with a flourish that he could whip the best man in the town. Those sitting about the room paid no attention to him, and with another swagger he offered to whip the best man in the country. Still getting no answer, his bravery increased so much that he announced he could whip the whole bunch and the best man in the state. At this a big ungainly fellow slowly straightened up and in the next few minutes so thoroughly whipped the fellow that as he picked himself up from the floor he remarked that he had "kivered a leetle too much territory that last time." This the speaker said was the case with the railroad people. In raising the lemon freight tariff, they had "kivered a leetle too much territory."

The American people are very sensitive to the fact that the large aggregations of capital have appropriated to themselves the benefits of the protective tariff. This has been so openly and brazenly announced by the railroads by raising the lemon freight rate that the senator said he would have a hard time explaining to members of congress whom he had asked to support the raise in lemon tariff, why it was that the railroads had so promptly presumed to take this as for their own advantage.

In conclusion Senator Flint pledged himself to do his utmost to wipe out the effects of this injustice attempted by the railroads.

## SOIL EXPERT.

At the meeting of the Lemon Men's Club at San Fernando and at the more recent meeting of the orange growers at Pomona, resolutions were passed endorsing the work of Messrs. Powell and Woglum and others of the Department of Agriculture in advancing the fruit interests of California. Resolutions were also passed urging upon Secretary Wilson of the Department of Agriculture, the sending of a man to California who shall be qualified to investigate as to methods of fertilizing. This action was taken at the suggestion of Prof. Cook. The committee appointed at San Fernando, consisting of A. F. Call, R. C. Allen, and A. J. Cook, drafted the resolutions, and another committee was appointed by Pres. Cook of the Claremont Club last Monday, which will doubtless draft similar ones. The San Fernando resolutions were as follows:

Resolved; that we recognize with exceeding gratitude the splendid work of Professor Powell and Mr. Woglum of the Department of Agriculture, which has saved hundreds of thousands of dollars to our citrus growers.

Resolved Further; that we recognize the great importance of thorough investigation by an expert, of our soils with reference to the use of fertilizers. We are all in the dark, and yet are spending hundreds of thousands of dollars annually. We recognize that this work must not only be conducted by one very able and learned, but will of necessity take many years before its completion.

Therefore Be It Resolved, that we petition Secretary Wilson that he send us through Dr. B. T. Galloway, the chief of the Bureau of Plant Industry, a competent person to perform this work.

---

It beats all how many things we can find to be improved if we look for them. Such a searching is less helpful than enumerating the joys of our lot.

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Some farmers are always driven with their work while others keep it in hand from the very start.

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**Chas. S. McMillan, Citrus Nurseryman**

# A Great Aid in the Control of Red Spider

## Hydrated Lime Has Added to the Efficiency of the Sulphur Spray and Also Removed the Danger of Injury to Leaf and Fruit

THIS is one of the worst pests of the orange orchard and has caused much annoyance and great loss to growers. The problem of its control has been found difficult to solve. The worst feature of the pest is that when the effects of its work become observable, its activity is largely ended, its life is finished, and there is no possibility of reaching it until the next brood appears. The close observer soon learned to note the first indications of its work and used the best methods at hand to control it. For years the distillate spray or emulsion was used, but the necessity of repeating frequently made this not only expensive but ultimately proved injurious to the trees and fruit. Dry sulphur thrown into the tree by hand was tried and found more effective, but expensive in both material and labor. Another remedy which has been in use for several years is the sulphide of potash spray mixture. This was composed of potash, sulphur, salt and water. It was not very expensive and was reasonably sure death to the mites infesting the tree and remained effective for some time after spraying.

A Cloud of the Sulphur and Lime Envelops the Tree.

The introduction of the dry spray process originally was taken to kindly in but few instances, but the results of the dry spraying of powdered sulphur in destroying the red spider have been such that the wide-awake orchardist must take notice.

Flowers of sulphur alone is effective in killing the mite, but it was soon observed that its use was injurious to both leaf and fruit. This was caused by the chemical action in the release of sulphurous acid. While death to the mites, it destroyed the tissue of leaf and rind of fruit. If something could be secured to neutralize this acid and at the same time dilute the sulphur to a certain extent, it was plain that it would prove a most satisfactory insecticide. Air slacked lime was tried but not found satisfactory, but the use of hydrated lime has proven to quite successful. Here the sulphurous acid liberated by the sunlight from the flowers of sulphur unites with the lime and forms a sulphate of calcium which is, in homely terms, gypsum, or land plaster. Therefore, instead of proving injurious, the dust spray becomes beneficial as an insecticide, is harmless to the tree, and the residue improves the soil.

Learning of the use of this dust spray on the orchards of Covina and San Dimas by Mr. D. S. Stowell, one of the veteran fumigators and sprayers of the state, the writer visited that section recently and was shown some of the finest orange groves in the world, promising for the coming year fully ninety per cent of last year's crop. This is far in excess of the average for the state.

Passing from Tree to Tree.

The work of the red spider has been so destructive that Mr. Stowell has given especial attention to finding a means of controlling it. He has discovered that the use of the sulphur-hydrated lime mixture is most effective, not only at the time of application, but for weeks and even months afterward. Before visiting the machine which was at work, we drove through an orchard which had been sprayed or dusted two weeks before. The odor of the sulphur was still perceptible and it could be seen on every leaf and fruit on the tree. Mr. Stowell says that he has found the most satisfactory proportion of the two chemicals to be 75 parts sulphur to 25 parts hydrated lime.

We observed the spraying machine at work on the ranch of Mr. E. Teague on old trees from fifteen to twenty feet high. These trees were taking from one to one and one-fourth pounds of the material, the cost being only about seven cents per tree. The illustrations shown on this page give something of an idea of the method of the work.

There is only one outlet for the power blower which is handled by the attendant so as to direct the dust to all parts of the tree. The spray wagon drives through the orchard without stopping, but the dust is thrown out in such quantity that the tree is almost completely enveloped with a great cloud of dust. The effect is such that if spraying is done on an exceptionally hot day, one can scarcely walk through the orchard because of the strength of the fumes. Immediately after the spray wagon has passed the trees, one may go to them and find that the dust is readily shaken off, but if undisturbed for a night or two it becomes fixed by the moisture in the air and remains on leaves and fruit until vaporized.

One of the most interesting sights we have seen is the manufacture of this hydrated lime. It is not a secret process, but is yet far more than a simple addition of water to lime—as its name would imply. The lime is run through a crusher and reduced to a fine powder, then carried by a conveyor to a large drum or mixer. In this mixer the water is placed in sufficient proportion to reduce the lime to an impalpable powder. It is then carried by another conveyor to the sacks. The factory of which we speak is that of W. H. Taylor, 846 Commercial St., Los Angeles, and the lime produced there is used by Mr. Stowell in his successful work in the Covina and San Dimas section. Mr. Stowell states that he has found Mr. Taylor's product uniformly dependable.

The machinery for applying the dust spray is shown in the engravings, and is merely a small gas engine which manipulates a mixer in the drum containing the spray material, together with a blower which causes the dust effect noted in the engravings.

The Machine.

### BACTERIA THAT DESTROY MANURE.

It is an error to regard barnyard manure as material that if properly protected will retain indefinitely its manurial value. At the best the operations of the bacteria that destroy it can only be checked, they cannot be hindered entirely. Two very different classes of bacteria work on manure. One class is the group that live in the open air and thrive only when air is supplied to them in abundance. These work on manure when it is exposed to the air. The other class consists of the group that live without air. They work best when they are in liquid. So, even the man that provides a great tank for holding liquid manure only delays the time at which its fertility will disappear. These latter bacteria are called anaerobic bacteria. They begin to work on the organic matter of the liquid manure as soon as it is accumulated sufficiently so as not to be exposed to the air. They go on destroying the organic matter just as the ferments in sweet cider destroy certain things in it and create acids. In the course of a comparatively short time the manurial value of liquid manure is destroyed by them. The only way to prevent them acting to the detriment of the fertilizer is to get it into the land.

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Quite an acreage of oranges will be planted in the Imperial Valley this coming spring.

# POTASH

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## ORANGES

will exhaust even the richest soils unless replenished by the use of fertilizers.

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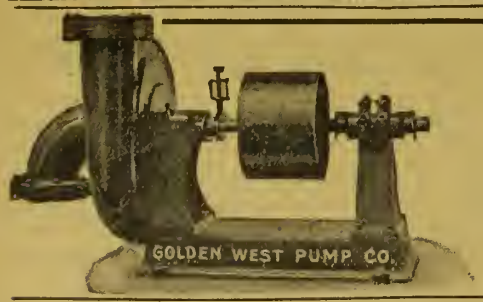


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# Deciduous Fruit Culture

### PLACER COUNTY GROWERS.

FRUIT growers of Placer county and many other sections of the Sacramento Valley met in Newcastle last week and gave the day up to discussions of methods of fruit marketing. Incidentally, fruit culture was touched upon, but the one point receiving greatest attention was that of a good honest pack of clean fruit.

The meeting was presided over by J. W. Jeffrey, State Horticultural Commissioner, and several speeches were made urging that greater attention be given to packing and to the eradication of fruit pests.

Frank McKevitt contended that California has more rivals among other states right now than ever before in its history, and that it was vital that all fruit shipped from here should be sound and of the best quality; that while we are handicapped by distance from the Eastern markets, still, we grow the best fruits in the world, but that we are fast losing our reputation on account of sending on green and wormy fruit. If one-fourth of a shipment is bad, said the speaker, that condemns the whole three-fourths. The speaker believed that an inspector ought to be appointed and paid by the fruit men to inspect all packs, and turn down all wormy or undersized fruit.

Supervisor Brennan of Loomis was present, and after a talk regarding the needs of the fruit interests for better inspection, stated that he would lend his support to all measures that were for the horticultural interests of the country. This pledge was received with satisfaction and general applause by all present. A commissioner will probably be appointed in due time as soon as one is found who will qualify under the new law which provides that he must be a capable man and able to stand the examination prescribed by the state examining board.

Chairman Jeffrey referred to the successful work accomplished by the orange shippers and county inspectors of the south, mentioning the fact that the county horticultural commission of Los Angeles spends nearly $12,000 a year for aiding in keeping its orchards free of pests, and Riverside and San Bernardino counties spend each about $10,000 a year.

J. M. Francis of Auburn declared that the prices of fruit were fixed by the shippers. He said that Placer county was now furnishing 80 to 85 per cent of the f.o.b. shipments, and that it was in the hands of the shippers to demand better returns and that each should separate his more desirable fruit from the lower grades and get first-class prices for first class fruit.

J. P. Dargitz, of San Joaquin, said the habit of selling for cash to the grower put a big premium on trickery; that whenever the growers knew they were going to get cash for their fruit at the houses they cared little whether they shipped good or indifferent fruit.

The fruit grower, the speaker contended, must know that unless he puts up first-class fruit he will not get top prices.

H. M. Branstetter, of Loomis, strongly advocated a plan to have one central packing-house in each district, and pay men to pack the fruit at such packing-houses in each district, instead of having the fruit growers pack their own output on their own ranches. Branstetter thought this would be cheaper to each grower, and would cause a higher grade of fruit to be shipped, as each shipment would be publicly scrutinized.

A resolution was unanimously adopted calling upon fruit men to grow a higher grade of fruit and to insist upon a better pack and more attractive appearance. This for the good name of California as well as for the immediate financial benefit of Placer county growers.

### BURBANK AND PLANT BREEDERS.

The meeting of nurserymen and florists at Los Angeles last week to discuss questions brought up by the action of the Pasadena Gardener's Association criticising the methods of Luther Burbank, brought out a divided opinion. Los Angeles members were evenly divided while the Pasadena parties were unanimous in condemning the commercial methods used in disposing of the Burbank products.

The opening feature was the reading of a communication from Geo. C. Roeding of Fresno. Mr. Roeding took the position that Mr. Burbank's work was worthy of the highest praise and that the efforts to belittle his reputation emanated from a desire to share in the glory given him by the American people. He made mention of the Burbank potato propagated and introduced by him, also the crimson winter rhubarb, spineless cactus, plums, cherries, walnuts, gladioli, Shasta daisy, red flowering poppy, and many other plants.

P. D. Barnhart of Pasadena represented the other side. He maintained that he had no intention of plunging the horticultural world into "spasms" by the resolutions passed by the Pasadena Gardeners Association on August 6th. His principal argument was that Burbank was the biggest egotist he had ever met, and quoted largely from Mr Burbank's circulars in support of his contention, showing the encouragement given by the "wizard" to the fabulous stories of the yellow newspapers. He declared that Mr. Burbank had said to him, "I have the finest gladiolus in the world," and also quoted him as saying, "My work is of more value than that of all the state experiment stations, government experts, and all other experiment farms and gardens combined."

Theodore Payne of Los Angeles read a carefully prepared paper touching upon the fruits brought out by Mr. Burbank, especially maintaining that the wonderberry was his own production and that it had great merit. Dr. Houghton of Los Angeles most severely arraigned Mr. Burbank's methods. He was opposed by Mr. Wagner, also of Los Angeles.

The last talk of the evening was given by Herbert Goudge who gave a most admirable description of new varieties of plants produced. He denied that Mr. Burbank had ever made any claim to being a "creator" of plants, or worthy of more credit than any hard worker who assumes that he will have success and does have it. He has formulated no new laws; he is merely working in accordance with

those long known to the best scientists of the country. He has made many failures, but let him be judged rather by his successes. Next to his indefatigable labor, the best reason for his success may be ascribed to his powers of insight or intuition by which he is quickly able to determine whether or not a young plant will prove of value. In illustration of this point he referred to the same quality in young children in European countries who are employed by florists to sort out seedlings of a plant which grows both single and double flowering varieties. The single flowering specimens are of no value, and though the botanist De Vries stated that the differences between the single and double flowering plants were so slight that he could give no description of them, yet these children's perceptions are so keen that they pass over the flats of young plants and almost instantly pick out and throw away the undesirable ones. This the speaker said gave a faint illustration of Mr. Burbank's power, which enables him to quickly determine the value of young plants. Thousands upon thousands are thrown away by him, often to secure only one or a very few that are worthy of further trial.

No vote was take nor judgment passed as to the feeling of the audience. A beautiful display of roses and carnations was made by Mr. Turner of Dieterich & Turner.

Jacob Dieterich is president of the association and J. J. Reeves, secretary.

### FRUIT GROWERS' PICNIC.

Under the management of Messrs. R. H. Hille and C. D. Hubbard, the San Fernando fruit growers are planning to picnic next Saturday, October 9th. The forenoon will be spent in visiting the orchards of the valley. At noontime the ladies will serve a luncheon at the orange and lemon packing house, and in the afternoon addresses will be given upon matters of interest to orange and lemon growers. On the program we note: Our Orange Market by R. H. Wilkinson, Sales Manager of the Exchange; Our Quaker Neighbor, F. A. Fletcher, Whittier; Pathological Research, Prof. R. A. Smith, State Pathological Institute, Whittier; Orange and Lemon Planting in Early Days Around the Old Mission, J. T. Wilson, San Fernando; Our Lemon Market, T. H. Powell, Lemon Sales Manager of the Exchange; Insect Pests, Prof. Cook, Pomona College; Orange and Lemon Growing in Florida, Col. Reid; Orange and Lemon Market in Scotland, John Burr; The Youngest Man in the Exchange, R. B. Lyon, Hollywood; From the Orchard to the Car, O. B. Griffin, Manager Leffingwell Rancho; Our Association, R. H. Hille, Manager San Fernando Exchange.

When the farmer considers that a ton of well-cured alfalfa hay is worth about as much as a ton of wheat bran, he ought to see that it is profitable to protect it from the rain and dew. He would scarcely hesitate to provide suitable covering if he had several tons of bran in the field exposed to the elements. Hay-caps will soon pay for themselves by the finer quality of the hay they assure, aside from the larger quantity of the best grade that their protection guarantees.—From Coburn's "The Book of Alfalfa."


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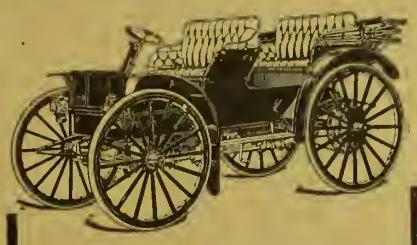

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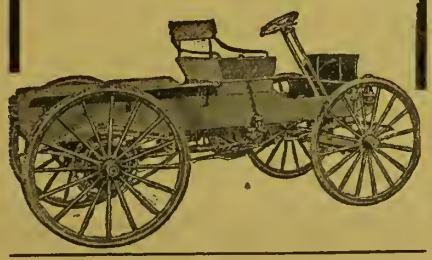

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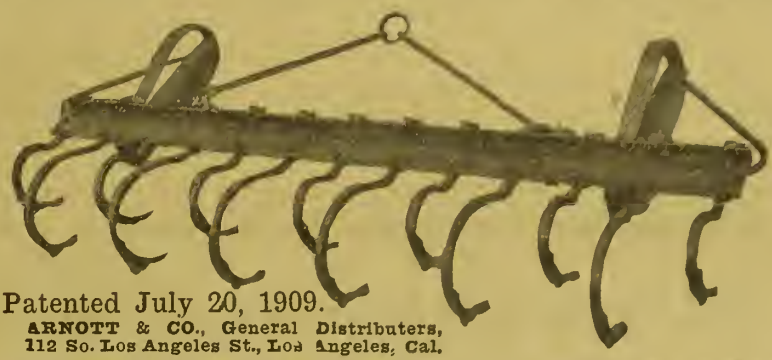

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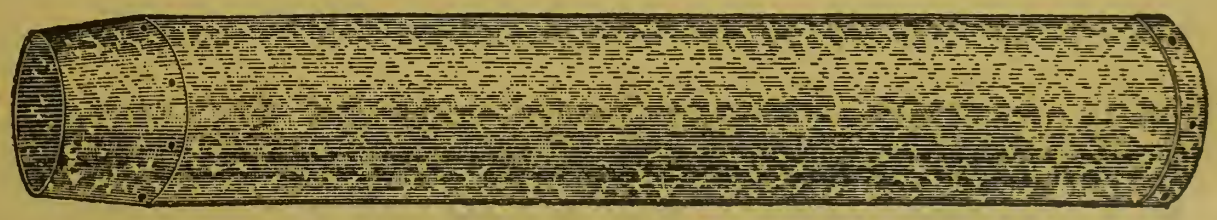

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My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
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Is making the very best strains of blood fresh from the island of Jersey a specialty. **Whiting Jersey Stock Farm Co., Heber, Cal.**

**Geo. C. Roeding, Fresno, Cal., breeder of**
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

# Live Stock and the Dairy

Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

## INCREASING THE PROFITS.

By Mrs. M. E. Sherman.

FARMING is a two sided matter; the land must increase in richness and the crop in quantity each year to meet the increasing expenses of production. Taxes, food and clothes are growing more and more expensive. Wages are therefore higher, while this season the grapes and peaches bring the lowest prices in years. This is the time of profit for the wheat farmer, the dairyman and the beef breeder. It is wonderful how the prices balance up to the producer. He is never allowed long to have any one article a money maker, for the idle schemer of a commission man or packer comes in to eat the profits. Farmers organizations do not seem to be able to hold their own. The Grange, the Rochdale, and now the Farmers Union, all born of optimism, what have they done for us?

### Diversity.

The keynote of agricultural development in California today is the building up of the small farm. The small profits from a variety of products count up rapidly; if we have improved stock, improved vines, better farming, and above all better farmers, with constant employment for the hands. The argicultural laborer of today, is, like the school teacher, doing transitional work instead of making it a life study. The old Chinese we had ten years ago had made farming their life work, and we will never be likely to secure as competent help again. The idea of skimming over the land with eight and ten horse teams, putting in a crop lightly on the surface, is passing away and the grain drill is being used to put the wheat in more carefully. The old gang plows often skipped seeding for a round, but it did not matter as the work was cheaply done and land cheap. Now it all has come to count and less land is producing more grain than ever before.

### Dividing the Land.

One by one the great ranches are passing into the hands of the small farmer. The great Chowchilla ranch of 108,000 acres, that has stretched as a waste along the Southern Pacific track for miles, with only a few grain farmers, rickety old shacks in sight, will soon be sold in small tracts. This means much to every one, for it means homes and sweet children, women and civilizing influences to occupy the waste and dreary stretches. The Experiment work at Davis on cereals is bound to help the farmers increase the food supply. The knowledge to be gained from improved tools makes this State Farm well worth a visit I hope to see a large gathering there at the coming Farmers Week at Davis. The viticulturist and horticulturist are not far in advance of the dairyman today. Ten years ago the dairymen were very ignorant of the principles of their art. Now we have many Americans taking up dairying as a pursuit and the knowledge gained from the Government and Experiment Stations is bringing in results.

### Iowa Example.

Sometimes there are men born with public spirit enough to be a blessing to their community. Back in Iowa, Mr. W. W. March has started an idea that will bring great results to the dairymen. He has offered $1,000 to be divided into twelve prizes for dairy cows making the best tests. The only stipulation is that the cow must be an Iowa one. The American Jersey Cattle Club will double the money won by the Jersey cow. Some breeders have added pure bred bulls as additional prizes, while the separator people, as usual, are at the front with more prizes of separators for the winners. If all the men selling agricultural implements had the enterprise that the separator people show, the country would be full of disc plows, alfalfa spaders, grain drills, manure spreaders and a score more of tools that should be seen on every general farm. The tests of the cows in the March competition are interesting. During the first thirty days one-third of the cows, about 28 in number, have made over forty pounds of butter fat. When the sixteen per cent of over run is added to this it makes a creditable amount of butter for a month.

### Home Records.

I have been writing up cattle pedigrees lately of the home herd. The smallest amount of milk produced by any cow last year was 7054 pounds and 249 pounds of butter by a two year old heifer. The herd averaged 8052 pounds of milk and 314 pounds of butter per cow. This included everything in milking from the one teated cow to the two that were beefed. The cows had short feed last year, as the winter was a wet one and prevented the usual picking on the fields and part of the time it was impossible to haul hay from the stacks. Seventeen out of the thirty cows were heifers with their first calves. The best records will show up in the official testing of the herd. There are several five hundred pounds of butter cows now in the herd. The herd was fed last winter on alfalfa hay and corn silage. The rains, however, are very hard on the cows and this season I mean to try to keep them in the barn during heavy storms.

### Prices.

I have often wished I had kept a close record of the cost of grading up a herd. As I look at it now I would not try it over, but would buy the pure bred animals, keeping fewer from the start. It is as hard to condemn the grade cow to the butcher as it is to get rid of the trash that is bought at bargain sales. A stable full of poor cows represents as much waste on a man's part, as the house of a woman that hunts the bargain counter of the store. It is hard not to excuse the handsome grade cow that falls below the required standard, particularly hard if she has been raised from a little calf under the eye. I sometimes think I feel toward the calves as the typical old time spinster felt toward her cats.

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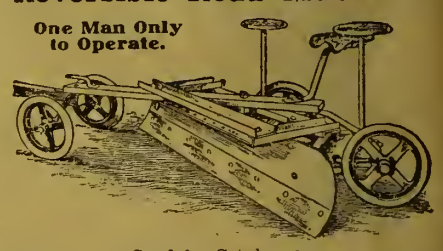

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Do you remember the old nursery rhyme?

Three old maids wearing the rue,
Dressed in yellow, pink and blue,
Nursing cats is all they do,
These poor old maids!

I heard a clever doctor make a variation of this:

Three old maids, dressed in pink,
Looking Oh so yellow! Feeling very blue.
Nursing cats is all they have to do!
These poor old malds.


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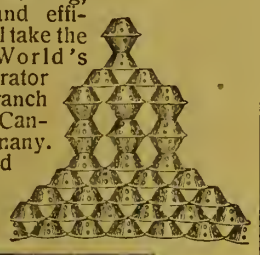
You can get a modern cream separator—a Sharples Dairy Tubular—with nothing in the bowl except the piece shown here on the thumb.

Or you can get an out-of-date separator with 40 to 60 disks in the bowl, as shown below; or one filled with other contrivances—all needless in a modern machine.



For easy cleaning, durability and efficiency you'll take the Tubular. World's biggest separator factory. Branch factories in Canada and Germany. Sales exceed most, if not all, others combined.

Write for catalogue No. 260

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Mott, Illinois,

"I have used Kow-Kure for three or four years. With it alone I have cured all ailments that afflict cows. As a milk producer it has no equal." G. P. Lanterman.

We have thousands of similar indorsements. A trial will convince you. If your dealer cannot supply you write us direct. Send for free booklet, "The Cost of a Lost Cow." It contains money-making information for every cow owner. You can't afford to be ... it—remember it's free. ... today.

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Germain Seed and Plant Co.
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For Sale by All Dealers


I can understand anyone looking yellow and feeling blue when he turned off to the butcher a cow raised from a calf on the ranch.

**Calves.**

They are the sweetest creatures on the ranch, with their freakish little ways and the great big clear eyes that watch you unwinkingly, until you stand looking at them too hard and long. Then away they go down the yard, full of sudden self conscious shyness. They are babies in their ways, and respond to kindness with most inquisitive interest in all your clothes. They smell and then chew up the clothes of their friends, loving to lick the hands and face with their rough tongues.—M. E. Sherman.

## SHORT COURSE.

Last year many prosperous farmers were attracted to the Short Courses offered at the University Farm at Davis. A very instructive course was given along the line of animal industy and was largely attended. The course prepared for this year will be even more attractive. The work will be in charge of Professor Major and his two assistants, Mr. Howard Phillips and Mr. F. D. Hawk, graduates of the Iowa State Agricultural College, who have recently been added to the force of instructors. These young men were both members of winning teams in live stock judging and received individual honors in judging at the live stock shows held in Kansas City and Chicago, and come to the University highly recommended.

The Short Course in Animal Industry will begin November 1st, and continue until November 20th. The first week will be devoted to dairy stock and dairy interests. A course of lectures will be given on the various phases of dairying. The origin, history, importation and improvement of each breed will be studied, attention being paid to herd registry and to the register of merit. Selection, feeding, care and management from the standpoint of economical production of milk and butter fat will be discussed and practical work in judging dairy stock will be given each afternoon.

The second week will be devoted to cattle, sheep and swine. Lectures will be given on the origin, history and development of the different breeds; their place in our agriculture, a study of the different market classes, methods of feeding the breeding herd and methods used in feeding for the fat stock market. Two hours each afternoon will be given over to the judging of stock both from the breed and market standpoint.

The third week will be given to the subject of horses and mules and the lectures will include a discussion on the various breeds; their origin, history and adaptability to different soils and climates, the breeding, care and handling of the mare and the rearing of the colt, special attention being devoted to their feeding.

The last day of the course there will be a judging contest which will be open to all men under twenty-five years of age who have attended the course.

---

Prof. W. L. Carlyle is now at the head of the stock department of the A-Y-P Exposition, owing to the death of former Superintendent Wisdom.


**Do your cows milk hard? Send 50 cents for tent expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**



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Liberty Lanterns are worth more in actual service than any lantern made and don't cost a penny more.

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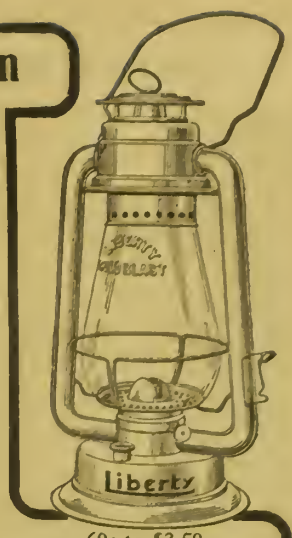


give the broadest, strongest, whitest light. They won't jar down or jolt out. The bail stands at any angle. A strong coiled spring holds the globe steady. The globe is the thinnest, toughest chimney glass made. Don't be persuaded to buy the "just as good" kinds. Buy the best—Liberty Lanterns.

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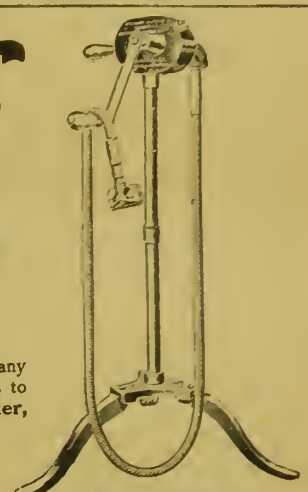

Stop paying high charges for work that you, or any man or boy, can do. There's no need to employ experts to clip your horses when you can clip them **yourself better, quicker, cleaner, safer and cheaper** with a

## Stewart No. 1 Ball Bearing Horse Clipping Machine

It's an economy for the man who owns one or more horses. For, with a STEWART, there are no delays. The machine is always ready for use. Horses can be clipped more frequently and at Regular Intervals. The STEWART is *the* machine that lasts indefinitely and gives good service *all* the time. It never requires attention, and runs practically without friction or wear. A tremendous speed of the knives is obtained by slowly turning the handle—and a boy can turn the handle. (Another boy can clip the horse.)

**Complete for $8.50.**

The price is for the machine ready to begin clipping horses with. It includes six feet of flexible shaft, the famous Stewart Clipping Knife and a liberal guarantee. Get one at your dealer's. If not there, write us.

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I pay freight. I sell on trial, if not satisfied I will refund you every cent. Order now. I can ship the day I get your order.

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**Tree Protector**
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Is cheap, durable, and quickly put on the tree. It prevents rabbits from destroying your trees. A sure protection against frost, sunburn, grasshoppers or dry winds. Can be easily removed; will last for years. Send for samples.

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**Strawberry Plants**

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Send for price list.

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All sizes for Fall and early Spring planting. We make special prices on seedlings, 500 to 1,000 trees to a flat. We have a quantity of hardy stock for bare root planting, can be handled at small expense and give satisfaction. Correspondence solicited.
**The SOUTHARD NURSERIES, Redlands, Cal.**

**Feijoa Sellowiana** A most delicious fruit that can be used for every purpose that an apple is used. Strong plants 75c.
**Pleroma Splendens** with foliage of velvet and royal purple flowers, 75c.
**Avocado or Alligator Pear** Seedlings and budded trees. Many novelties in plants.
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**Inglewood, California**

# Small Fruits and Vegetables

### THIS MONTH.

PEAS for January table should be planted at once. Yorkshire hero is probably the best variety. Those who have locations well protected from frost may transplant tomatoes, and those who wish extra early spring fruit may plant seed in hot beds at this time. Of course, even in the most protected situations in California they will require special care if the seeds are planted now, but the pleasure of having winter fruit will well repay care given. Seeds of peppers may also be planted, and in addition spinach, radish onions, chard, turnips, lettuce, cabbage, and in fact all the hardier "early spring" vegetables.

Rake up dried vines, leaves and weeds. If any disease has prevailed in potatoes or other vines during the season, they should either be burned or composted and used on orchard or other than garden crop.

It goes without saying that the ground should be in the very best of condition and thoroughly moistened, not only on the surface but to considerable depth, if the seed are to be given a fair start in life.

### GROWING SPINACH.

Spinach is an annual plant used for "greens," and is in best demand in late fall and very early spring. It is very hardy. The seed stalks grow about two feet in height. Spinach leaves are rather large and succulent. It grows best in cool weather and is of very easy culture. In order to have the leaves and stalks tender there must be quick, rapid growth. which calls for a soil that is rich in humus and in fine tilth.

For a very early spring crop the seed should be sown in August or early September. One ounce of seed will sow 100 feet of drill, 12 pounds to the acre. The seed may be broadcasted or sown in drills one foot apart, but the drill system is best. Sow about 40 seeds to each foot of row and cover one inch deep. The seed is large in proportion to the sprout that has to push it up. If it is planted deep, and the ground crusts, it has trouble in getting through.

In market gardening it is best to apply nitrate of soda to the crop in spring, giving it as a top dressing, at the rate of 150 pounds to the acre. The nitrate of soda should be applied broadcast in two applications, about two feet apart, soon after the plants get nicely started. In about eight weeks the leaves will be large enough to gather. A dressing of hen manure is a good substitute for the nitrate of soda, in case the latter is not available.

When thus grown over winter the spinach field should be made into slightly raised beds six to nine feet wide, so that water will not stand on the plants. The rows should run lengthwise of the bed. It should be ready for use about April and May, and the crop off the ground in early June. F. W. Kilbourne, a New Jersey farmer, writes that by November 20 the plants on his place average about five inches across. With the beginning of winter he top-dresses the spinach with short horse manure at the rate of ten tons to the acre. He begins cutting early in the spring, cutting off the biggest and then cultivating. The cultivating and the nitrate of soda—of which he uses 400 pounds to the acre—forces it.—Globe-Democrat.

### ATTRACTIVE PACKAGES.

For the marketing of small fruits and vegetables to have them bring the greatest returns we must give some attention to the size and style of packages used. To attract the buyers in the large cities who have the money and are willing to pay for what they want, we must put stuff into those packages which are the most attractive, and still at the same time be handy to carry about. In shipping such produce as blackberries, cherries and plums, the package most generally used is the 24-quart berry case, while at the same time the same produce put up in neat shape in the 16-quart cases will sell for nearly as much as the larger size, with only two-thirds the fruit. Grapes often lie on the market and beg for buyers when put up in large cases, while a package of three or four pounds put up in neat, attractive manner, will sell beside the other at 25 cents and up per package. The eyes must be tempted. The one-third bushel basket is much handier for the shipment of beans than the bushel basket, and will often sell for about the same price. I have had green onions sell on the early spring market for 75 cents and $1 per one-third bushel peach case, while onions put up in the bushel apple box could hardly be sold at all, and even though they were sold they went at about $1.50 to $1.75.—Ex.

### TO TELL RIPE MELONS.

You might shut your eyes or be blind, and could easily tell by your nose. The ripe muskmelon has the peculiar strong melon aroma. But the changing color of the rind, from the deep green of fresh, active growth, to a dull yellowish shade, gives an unmistakable indication of approaching or attained maturity. The never-failing sign, however, is the ready parting of the melon from the stem. When you lift the melon and it comes or breaks off easily from the vine, the melon is right for marketing.

We often find our Emerald Gems and Gold Coins, etc., already loosened from the vine, so that we simply pick them up, and may eat them immediately, as they are then fully ripe. If they have to be lifted or in the slightest degree twisted in order to make them let go from the stem, the melon should be stored in a cool place, and will then, in a day or two, be found in prime condition for eating. Closer observation and better judgment are required to pick out the ripe watermelons in a patch. An expert, however, is seldom fooled. The inexperienced grower, however, is liable to make many and annoying mistakes.

As in the case of muskmelons, the changing color is about the best indication of ripening. The upper part of the melon loses its freshness of growth and becomes of a dull, I might say dead, green. Usually the tendril which grows on the vine directly opposite the stem of the melon dies and turns brown or black when the melon has reached its full maturity. The professional melon grower, however, tells more by the sound, when snapping the middle finger from the thumb against the melon, or by simply pressing it lightly with the hand, than by any other means. The ripe melon, when lightly pressed "cracks" or when snapped gives that dull sound which the fine and experienced ear of the old melon grower easily catches and knows. In short, it is easy enough to tell a ripe melon of any kind when you know how to use your eyes, nose or ears.—T. Greiner.

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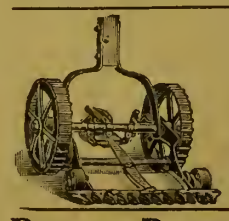

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# The Ornamental Garden

### THIS MONTH.

THIS is bulb planting month. Nearly all bulbs may be put in at once. If Watsonias are still out of the ground they should be planted. These beautiful flowers are worthy of more general place than they have ever had. The writer has them already coming through the ground. Other bulbs which should be planted at once are; hyacinths, tulips, narcissi, Easter lilies, cyclamen, ranunculus, anemones, ixias, tritonias, sparaxis, freezias, and practically all Dutch bulbs.

Sweet peas should be planted and other annuals that were not planted earlier; pansies, mignonette, scarlet flax, stocks, scabiosa, phlox, and dianthus. Stocks and pansies that were sown early may be transplanted this month into their permanent beds.

If well rotted manure can be had which is not full of weed seeds, this is a good time to give a liberal application to the lawn, washing it through with the hose, and after a few days of thorough drenchings, rake off the surplus before it has time to kill the lawn in spots. This is also a good time to sow new lawns as they are less liable to be infested with bermuda than those planted in spring. Bermuda is essentially a warm weather grower and the blue grass planted now will have a chance to get a start of the pest.

If the lawn is thickly sprinkled with bermuda or completely taken by it, it will be benefited by an application of manure which will render it less liable to turn brown when the colder weather comes.

### METHOD OF ROSE GRAFTING.

By a new method of grafting Hugo H. Lillienthal, of Berkeley, Cal., has very recently discovered a new way of saving young roses from mildew and thus preserving from destruction from 50 to 75 per cent. of the roses of American gardens and hothouses.

Lillienthal's method is a grafting of tender slips upon the dog rose, the graft entering the dog rose bark obliquely, but not puncturing the core.

The dog rose, having hard, glossy leaves, able to resist the attack of the mildew, protects its little proteges and lends to them some of its own hardiness. The discovery is considered one of the most important of recent years to horticulturists.

Rosegrowers have found that the hardest problem they had to face was that of mildew. It is estimated that the mildew is responsible for the loss of from 50 to 75 per cent of the younger plants in commercial and private gardens. So destructive was the fungus, in fact, that horticultural journals, both in Europe and America, have been pleading for years with horticulturists to give their attention to this mildew problem.

Mr. Lillienthal's method is new in two particulars—both in the method of the graft and its application to the mildew problem. It will permit the production annually from each bush of not less than 3000 usable rose slips. The operation is a delicate one and requires the most care that is known to the horticulturist surgeons.—Portland Oregonian.

### FARM FENCE.

There are more farm fences in California than formerly. The settlement of unoccupied sections and the bringing in of more and more stock have caused the construction of division and field fences. In this state as a rule they have been fairly attractive in appearance, but it must be confessed that one often sees specimens which lend anything but attractiveness to the farm surroundings.

Fences have shown considerable evolution from the days of the stone wall or worm fence, and while the materials now cost far more than formerly, economical methods of construction, and construction which is more permanent make possible the building of an attractive fence at little more cost than the out-of-date ones of years ago. There are few features about the farm that add to or subtract from its appearance as much as the fence. The stock laws prevailing in this country allow yards and lawns to be left without enclosure, but a fence selected with discrimination and built with care is an attractive feature and a benefit.

Wire fencing today is constructed in so many styles that any taste may be satisfied. We may still find today in some places—possibly from poor work or slack wires—fences that are far from attractive and even ineffective in restraining stock. There is no excuse for this, for with care in setting posts and the use of proper appliances for stretching, a taut, true, effective fence is possible to every workman.

The cement post cannot yet be unqualifiedly endorsed, though it is a safe prediction that it will be the fence post of the future. Deeply and properly set, there is no reason why a fence should not now be constructed to last a lifetime.

We believe it would be most instructive for our subscribers to take a glance through some of the attractive wire fence catalogues and post themselves as to the different features of fences now in the market. A line dropped to either the California Anchor Fence Co., Stockton, the Pacific Fence Construction Co., 352 Market St., San Francisco, or the Standard Fencing Co., 151 12th St., Oakland, will meet with cheerful response and information on the fence question which will be educational.

It will add value to your farm to true up and fix up your fences.

### DURABLE WHITEWASH.

For every barrel of fresh lime add 16 pounds of tallow, 16 pounds of salt and 4 pounds of glue, dissolved. Mix all together and slack; keep covered and let stand a few days before using. Add water to bring to the right consistence to spread readily. For nice inside work strain it. When less than a half barrel of lime is used, the quality of the wash does not seem so good. It is better to apply hot, but it does well cold.

Teach the boys and girls small farming by allowing them to grow vegetables or flowers for market. The garden and truck patches are good places for this kind of educational work. Let them grow things and sell them and have the money for their own use. It is better than laying up money for them to use when you cannot direct its use.

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# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, October 7, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

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## No Notice Filed

UP TO time of going to press it is impossible to learn whether the notice of advance in lemon freight rate has been filed with the Interstate Commerce Commission. Presumably it has not, and if such is the case, the rate cannot be advanced on November 1st as was earlier announced by the traffic association. The hope is freely expressed that the railroad people are being influenced by a sounder second judgment and have decided not to advance the rate at this time.

## Not Holding Organizations.

IN SPEAKING of efforts at co-operation which have at times promised so well in this state, but have not seemed to work out so successfully as in other countries, Mr. E. F. Adams in the agricultural department of the San Francisco Chronicle says:

"Our co-operative marketing societies are for the most part societies for "holding" crops rather than selling them, which is ruinous, and has done more than anything else to injure our raisin and prune trade. Nothing can change this except bitter experience continued long enough to convince even dreamers of their folly. We have produced a condition in which the trade of the country is handling as little as possible of some of our principal products, instead of as much as it can."

We surely have had some bitter experiences from attempts at co-operation in this state, so we should be ready to come together on a selling basis. The desire to corner a market and force people to come to our terms is very human and is not exclusively found on Wall Street. Our farmers are built on somewhat the same lines as Wall Street brokers but, unfortunately, do not possess their power over the market.

Mr. Adams does not refer in his article to the most successful co-operative marketing organization in the world, the California Fruit Growers Exchange, which handles for its members nearly twenty million dollars worth of citrus fruits annually. He does not need to go to Europe, as he does later in his article, to point out successfully operating organizations. Of course we cannot rival Europe in number of societies for we note in the article in question that according to statistics up to December 31st, 1907, there were as many as 1271 agricultural organizations for the benefit of the agricultural class in all lines, from agricultural insurance to marketing.

There is a great field here for efforts that will bring our producers together in a common sense co-operative organization.

## County Horticultural Commission

THE meeting of fruit growers at Newcastle last week was for the purpose of discussing methods of producing cleaner and better fruit, of securing more uniform and more attractive pack and touching to a certain extent upon the question of transportation. This is a step in the right direction. Newcastle and all that section of the Sacramento Valley is wonderfully favored by natural advantages and producers there have as a rule made the most of them, but some have failed to appreciate to the full the opportunities offered and have sent to market goods which were not a credit to their community. The growers assembled in this meeting discussed methods and took an advanced position on the question of producing the very best the section was capable of producing, and of packing in such an attractive way that their output would command the highest market prices.

Another matter taken up was the appointment of a horticultural commissioner for Placer County and without question sufficient sentiment was created to influence the supervisors to appoint a thoroughly competent man to look after the fruit interests. It is strange that the supervisors of many counties in the state refuse to recognize the importance of the fruit industry to the extent of appointing such a necessary officer. The growers of every county should insist upon this, and if it can be secured in no other way, should go to the poles and elect men who will protect their interests.

## Green Manuring

COVER CROP conditions confront orchardists in different parts of the state. The only intelligent method is to study these different conditions and raise the crop and plant it at the time and in the manner that these conditions require.

In general it may be said that the best crop for your conditions is that which will produce the largest tonnage. The difference in nitrogen gathering capacity amongst the legumes is exceedingly slight. Therefore, if vetch, which seems to be a favorite with many of our contributors, produces the greatest tonnage, that should be the plant chosen. If twelve to twenty-five tons of green stuff can be turned under the soil each year, it goes without saying, even if it is largely composed of water, that the chemical processes set up in its decay can only be beneficial.

## Important if True

THERE has been considerable talk in some sections of California regarding state division, occasioned by the action of the state board of equalization in raising the valuation of certain counties from twenty to a hundred per cent.

Prof. Wickson, head of the Agricultural College of the State University, in a recent article says: "What a silly thing it becomes, then, for a single county which has not paid its share of state taxes hitherto, to propose state division as an escape from its proper punishment!" That statement is most important if true, but it is the first time we have seen it asserted that the action of the board of equalization was intended as a "punishment."

The Cultivator questions as to whether the great state of California should be divided. There is along many lines a oneness of thought and a patriotic feeling which will make, we hope, many people in the south debate long before fully deciding upon separation, but the charge made by Prof. Wickson is a serious one, and we trust he will prove his statement or modify his charge.

## Stand Patters

ON one day recently two growers of different farm products dropped into the editorial room and each without knowledge of the other's statement, remarked that the producers will not stand by their agreements to co-operate in marketing their output. The industries represented by these two men were walnut and poultry raising. Both have been connected with co-operative organizations and both have found that under pressure of a good offer for their produce, the members will ignore their promises. Usually this is done by the small growers, who, while they have much loss to lose in one sense, have much more to lose in another, and who, because of the immediate penny gain, jeopardize the dollar a little farther beyond.

No co-operative effort can succeed until our producers become intelligent enough to see that they must stand together, not only when things are going smoothly and in favor of the individual, but as well when the large buyer comes along and offers him a reward for desertion. Large buyers usually have long purses and can worry the small producers apart and gain thereby. This has been the case since time began and will be, we fear, for years to come.

## The Census

THE U. S. Director of Census has requested the farmers over the country to assist in securing accurate data for the coming census by keeping records of all agricultural transactions through the year. The twelfth census reports a total investment of over five billion dollars in manufactures and over twenty and a half billions in agriculture, or more than four times as much in agriculture as in manufactures. It also shows 5,700,000 farms, and it is expected that the coming census will show about 6,000,000. In order to make the great fund of information in regard to all these farms as exact as possible, the census officials have asked the assistance of the farmers themselves.

## Scratchiculture

AN EASTERN paper has coined the new word given in the above head, which is descriptive of much orchard culture, even in California where we boast of more advanced horticultural methods than any other state of the union. Some engage in such culture because of a belief that it turns less moist soil up to the air to be dried out and disturbs the roots less, and imagine they have good reasons for their methods of work. More often such culture is the result of simon pure laziness or the keeping of such light teams and tools that deep and thorough work cannot be done. But if any place in the world is benefited by deep and thorough cultivation it is the orchards of this state. Almost invariably the big and profitable crops of oranges, peaches, apricots, or whatnot are produced by orchards cared for by the man who does not follow "scratchiculture" but does follow deep and thorough tillage of the soil.

NOT content to allow the people of the Inland Empire to have the only national or international apple show, the people of Colorado are now coming forward with the announcement that the Colorado National Apple Exposition will be held early in January. The apple has been intimately connected with the life of mankind since earliest history. It is proper to encourage it but the "nationalizing" of every show which a community may get up has little to do with the advancement of the industry.

# Agricultural News Notes of the Pacific Coast

## Northern California

Red mite has caused much damage in the bean fields of Butte county.

Numerous arteslan wells have been sunk in Surprisc Valley, Modoc county.

The sale of livestock at the state fair is said to have been a complete failure.

Anderson's shipments of fresh deciduous fruits during August aggregated 101 cars.

Ten carloads of cattle were shipped from Gridley, Butte county, in one shipment recently.

Alexander Valley in Sonoma county is now receiving fifteen dollars per ton for wine grapes.

The Fairoaks Fruit Co. has been awarded gold medal for olives and olive oil at the A-Y-P Exposition.

The cannery at Gridley made a straight two months run and closed two weeks earlier than in 1908.

The owner of a twenty acre vineyard at Woodland turned 100 hogs into his vineyard to gather the crop.

The Ehmann Olive Co. of Oroville was honored by the A-Y-P Exposition in the award of highest place for olive oil.

A meeting of the farmers of Macdoel, Siskiyou county, was held last week and methods of culture discussed.

Some farm lands in Modoc county are reported to have produced 70 bushels of wheat to the acre this year.

The big dam on the Orland Irrigation Project is under way, the foundation being over 45 feet below the surface.

The Sacramento Valley Sugar Co. at Hamilton City, wins the gold medal for high-grade sugar at the Seattle Exposition.

The State Game Farm recently established near Haywards is now said to have more than 4000 rare game birds.

The best sweet pea expert in the United States is said to be a Santa Rosa pastor and his advice is sought by the largest seed houses of the east.

The big Pittsburg syndicate which recently bought so much land in Glenn county has bought several thousand additional acres in the past few days.

One company at Nord, Butte county, will market over 2000 bales of hops this season. It is expected this output will bring the company nearly $100,000.

The Department of Agriculture has sent its portable pre-cooling plant to Lodi where it has been used in experimental pre-cooling of grapes before shipment.

Humboldt county people propose to have a well constructed highway from Eureka through Mendocino, Sonoma and Marin counties to San Francisco Bay.

Experiments made by Prof. A. V. Stubenrauch and his crops of helpers working with table grapes ln Lodi and surrounding sections have proved conclusively the gain in careful packing.

## Central California

Turlock has a thirty foot tomato vine.

Lodi ships fifty cars of tablc grapes daily.

Fresno County Fair will open October 18th.

Hanford reports raisins as drying rapidly and the fruit of fine quality.

The raisin market is still dull and producers are uncertain what steps to take.

The Stanislaus county Board of Trade has recommended a good roads campaign.

Delano, Kern county, has nearly 64,000 sacks of wheat stored in her warehouses.

A county convention of farmers unions will be held in Los Gatos October 2nd.

Santa Clara Valley poultry people are making an extensive display at the A-Y-P Exposition.

A Kings county rancher has made some trays from cottonwood this year and finds they work very satisfactorily.

The Forestry Society of California wishes to know where the three largest eucalyptus trees of this state are located.

There is talk amongst the farmers unions of endeavor to get the entire state together in one central marketing organization.

California has already shipped its first cargo of California grown hemp. It was grown on the islands of the San Joaquin Delta.

The farmers union at Campbell now has a dryer running on prunes and the union is grading and packing some fine stock.

Work will be begun on the Pajaro Valley cold storage plant early the coming winter and it will be ready for the next year's crop.

A dairyman at Riverdale, Fresno county, has a dairy of nineteen grade cows which yielded $117 worth of butter for the month of August.

A change has been made in the weather man at the Fresno station. The new officer in charge will be W. B. Fuller formerly of Los Angeles.

Swect potato growers in the Turlock section have formed a co-operative organization and agreed not to sell at less than a dollar per hundred.

The Tulare County Eucalyptus Co. has filed articles of incorporation. The purpose of the company will be to engage in the growing and selling of eucalyptus trees.

The great Chowchilla Ranch on the West Side has been bonded to a San Francisco company and it is expected that the 108,000 acres will be sub-divided and sold in parcels.

A special tax election calling for $89,000 for maintenance and repairs of the Turlock Irrigation District was held last week. The proposition was carried by a large majority.

A farmer at Pullman, Wash., has suggested to grape growers in the San Joaquin Valley that if raisins are being fed to hogs and stock, there should be some means by which farmers of the far north might have those raisins in exchange for barley for the hogs.

## Southern California

Orange county ls taking up a vigorous campaign for good roads.

The Fullerton-Placentia orange shipments last year aggregated 1136 cars.

Walnut packing houses are busy bleaching and sacking this year's crop.

The Imperial Co. farmers union held a meetlng at Brawlcy last Saturday.

Huntington Beach, Orange county, has a factory for producing fertilizer from peat.

Santa Barbara county will ship about 115 carloads of walnuts, twelve tons in each car.

Walnut growers have fixed a price of eleven and a half cents on this year's walnut crop.

The Lima Bean Growers Association has opened an office at 140 Franklin St., New York.

Covina has a newly organized chamber of commerce to push along the good points of that valley.

A large number of transfers of real estate have been made near Santa Maria, Santa Barbara county.

The average yield of sugar beets on the Orange county peat lands is about twenty-two tons per acre.

The lima bean growers are contemplating shipping beans by water this year to Atlantic Coast points.

An Anaheim farmer recently lost three good draft animals through feeding partially decayed potatoes.

Orange county proclaims that from an agricultural standpoint it is the greatest little county in the United States.

Ventura county papers are appealing for a county fair and it is possible another year may see one in that county.

A great body of land in the San Fernando Valley has been sold to Los Angeles capitalists and it is reported will soon be sub-divided.

A mass meeting of lima bean growers was held at Oxnard last Saturday The association requests that no grower sell for less than $3.75 per hundred weight.

Ventura county bean growers are standing together in spite of an effort on the part of large buyers to bear the market and break up the organization.

A fig grower in Orange county who had valuable Smyrna trees which never ripened their fruit, introduced the fig wasp this year and as a result harvested a large crop of fine figs.

A meeting of farmers and stockmen of Ventura county will be held at Ventura next Saturday to organize an association for the protection of all stock owners against stock thieves.

The almond crop of Ventura county is reported good and prices fair. Some ranchers have contracted at ten and a half. There has been difficulty in getting sufficient help for picking.

The Santa Ana River Development Co. and the Anaheim Union Water Co. have entered into an agreement with the Riverside Water Co. as to division of water rights in the Santa Ana River.

## The Coast

President Taft visited the A-Y-P Exposition last week.

Hawaii produces about 521,000 tons of sugar per annum.

Colorado will produce over a million and a half tons of hay this year.

Three thousand acres will be set to orchards in one body in Lynn county. Oregon.

Interest in the Colorado Apple Show to be held in January is increasing.

The total attendance at the Interstate Fair at Spokane this year was nearly 104,000.

James J. Hill predicts that Montana will yet be the greatest grain state in the country.

Seattle recently received 51 cars of potatoes in one day and buying price dropped to $12 per ton.

In Hawaii 2000 pounds of sugar is reckoned as a ton. In other sections 2240 pounds are required.

An immense crowd witnessed the recent opening of the great Gunnison Tunnel by President Taft.

Farmers of the Inland Empire. Eastern Washington, are already seeding for the coming wheat and grain crop.

Oregon walnut growers report the appearance of blight similar to that which has affected walnut trees in Southern California.

Fort Collins, Colo., enjoyed what was called a Lamb Day. Barbecued mutton and a general good time were the principal features.

The Hawaiian sugar fiscal year begins with the 1st of October. There are 48 complete sugar mills operating in the Hawaiian Islands.

Arrangements are practically completed for the opening of the Dry Farming Congress which will be held late in October at Billings, Mont.

Reclamation work in Arizona has been stimulated by the cooler weather, and 300 men are now at work on the Yuma Indian Reservation.

Buyers in the Oregon prune growing section seem to be backward at purchasing at prices for which producers will sell. The crop as a rule has been heavy.

A convention of apple growers will be held at Spokane, Wash. November 16th to discuss the La Fean bill which proposes a change in the size of apple boxes.

Pres. Taft's speech at Spokane on the reclamation service brought out the point that he would recommend a bond issue for advancing reclamation work.

Lewiston, Idaho, has been predicted as the center of one of the greatest dairying interests of the United States by the dairy professor of the University of Idaho.

Capitalists from Holland have been investigating the land in vicinity of Columbia, Wash., and are contemplating a project calling for the irrigation of 8000 acres of land.

Hay in North Yakima section, Eastern Washington, is held at more than double the price of former years. Stockmen who were compelled to begin early feeding because of snows have balked at paying such prices.

# West Coast Egg Food

***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90, 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

## West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

## FOR MOULTING HENS

***Feed***

# MIDLAND

## Poultry Food No. 4

***$1.95 per Sack***

Midland moulting food is a balanced ration for the moulting hen and is absolutely the best food to feed for eggs and feathers. By feeding No. 4 now you bring your flock through the moult in good condition, which insures eggs when the market is high.

***Petaluma Incubators and Brooders***

Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

Send for our Illustrated Catalogue.

## Petaluma Incubator Company

**Petaluma, California**

Our General Agents for Incubators and Brooders and Midland Poultry Food:
**Petaluma Incubator Co., Petaluma, Cal.**
**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**
**Berrar & Robertson, San Jose, Cal.**

## White Leghorns

**A Standard Strain of Great Layers**

With our Standard Strain as a foundation and with the ideal conditions that exist at the Model Poultry Farm we have produced a flock of birds this season that for beauty and utility can not be surpassed.

Eggs, Stock and Chicks for sale. Send for descriptive circular of our Stock and Farm.

Address

**Model Poultry Farm** IRVINGTON, ALAMEDA CO. CALIFORNIA

## MRS. C. D. HUBBARD'S WHITE WYANDOTTES

Eggs for hatching September 1st '09. Write for circular.

BOX 60, ROUTE NO. 7 SAN FERNANDO CAL.


# Profit in the Poultry Yard

We solicit short articles of a practical nature from the farmer and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

## COMMERCIAL POULTRY CULTURE

By Bee Josephine O'Mealey.

NOT only California, but all the rest of the world, is full of people energetically chasing the elusive dollar down any avenue or by-path which seems to promise pay-dirt. Many of them are without road-maps or a clear idea of the topography, but they are chasing just the same and the Chicken Cross-cut is worn by many trampling feet, many of which, alas, fail to reach the desired goal. Many people are sure there is money in poultry culture because they have sunk a good bit in it themselves, but the truth remains, there is a good bit of money to be secured in this way, under proper conditions.

### Radium to Radish.

To the beginner, who has no knowledge of chickens other than the memory of what "mother used to have," let me say, Don't take the advertisements of the incubator manufacturers too literally. A hundred eggs from a huckster wagon might produce 98 good, strong, thrifty chicks, but it's radium to radish seed that they won't. You may possibly buy a dozen hens at the meat market which will produce four thousand, two hundred and one eggs in a year with no labor and no out-lay except forty nine cents for tarred paper, but, if you do, keep those hens in a safe deposit vault and when they die of old age have them nicely mounted and present them to the leading museums of the United States.

### Common Sense.

The immutable truth is that you cannot expect something for nothing, and there is no enterprise under the sun in which you can embark and reap a fortune without investment and persistent attention.

Chickens, in common with all living creatures, require good, suitable and sufficient food and comfortable quarters, and intelligent care; common sense should teach one this, yet common sense seems to desert a great many people when they contemplate the poultry business.

### About a Thousand Head.

A shrewd, capable woman of my acquaintance helped her husband to amass a very comfortable fortune in the jewelry business. One day she told me of their plans: "We are going out of business; we can get along without earning every day. John's health is failing and our investments will keep us. We shall go out a few miles from the city and buy a little place and hire a man to raise garden truck for the market, and we will get a few chickens—about a thousand—which John will care for, just to let him feel that he has some little thing on his hands and keep him from being entirely idle, which would be bad for him."

I assured her that with a thousand chickens he would not lack for employment, but she refused to listen to my statements. A few weeks later I asked her when they were going out of business, and her manner was fairly tragical as she told me of a vacation spent in the country where the woman had only a hundred chickens, but she had to feed some of them four times a day, and had to have wire yards and machinery to hatch them and keep them warm at night, and buy stuff to kill bugs on them, and then sometimes they don't lay eggs. She had no idea that chickens cost anything for equipment or care, and yet she was a good business woman.

### Went Fishing.

Another young couple of my acquaintance set 240 fancy eggs in an incubator, cared for it every day until they were due to hatch, then, having read that the young chicks needed no food for twenty-four hours they reasoned that the incubator would keep warm if the lamp did go out. So they locked up the house and went away to stay over Sunday. They had such a fine time they did not get back until Tuesday and found about two hundred chicks, an unusually good hatch, all dead.

Another man of my acquaintance went fishing one nice hot day at the close of a 300-egg incubator hatch. When his mother learned that he was gone the thermometer stood at 120 degrees, and the brooding of that hatch offered no problems.

Unless one is willing and able to spend some money and a great deal of time and effort, the raising of poultry offers no avenue to prosperity.

The glowing stories of those who raise a few hundred chickens on the back porch of the flat or in the city back yard during the spare hours left in working in an office or at a shop are mostly practice work by those who are training for press agents or real estate boomers. And it does not follow that because one has gratifying results from a dozen fowls, fed chiefly on table scraps and waste from the family kitchen, and the kitchen next door, that one can embark in commercial poultry culture to good advantage under the same conditions; and the fact also remains that large flocks do not give as good returns proportionally as small ones. My personal experience has been that there is more money to be had from twenty fowls than from forty, not more in proportion, but actually more money.

There are numerous ways of saving one's money and energy which come by experience, your own or other peoples', and there are plenty of reputable publications which devote much space to this very experience which is of great value to the experienced and inexperienced alike, but in even the most carefully edited columns are sometimes to be found the veriest nonsense. Whatever you read or hear must bear the test of common sense and unless you can apply this test past up the chicken business.

## POULTRY STATION.

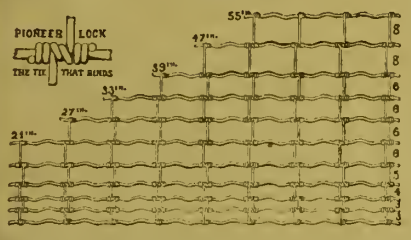
Poultry raisers of the State will be interested to know that a poultry station will soon be installed on the University Farm at Davis. Several new ideas in brooders, poultry houses and runways will be tried out. To insure immunity from poultry diseases, not a fowl will be brought to the University Farm, but all the stock will be hatched on the spot. One feature of

the station will be an isolated poultry hospital, to which diseased fowls may be brought for diagnosis and treatment.

Professor M. E. Jaffa, who has had charge of the Petaluma Poultry Station, will direct the poultry work on the Farm. Experiments in poultry feeding will be an important part of the work.

It is Professor Jaffa's idea that both the Petaluma and the University Farm Poultry Stations are needed by California poultrymen. Results obtained at Petaluma are valuable for the Bay Region, with its peculiar climatic conditions; but for the interior of the state another station is needed. The University Farm at Davis is thoroughly typical of the Great Valley in every way, and the poultry station there will complement the work of the Petaluma station.


**Kokomo Hog Field Poultry Fence**




The Standard of all makes. Square and Diamond Mesh Fences for all purposes. Made of heavy, non-rust, self-regulating steel wires. Absolutely hog tight and stock proof. Write us for catalog and prices.

**CALIFORNIA ANCHOR FENCE CO.**
Main & Market Sts., Stockton, Cal.

**GEESE**

**Toulouse Embden**

Prize winning stock never beaten at any poultry show.

**$1.50 Per Setting**

Fine Toulouse Ganders for sale at $4.00 each.

Send your order at once for the best stock in the west.

**T. B. C. Sielcken**
CALISTOGA, CAL.

**CROLEY'S**
**High Protein Meat Scrap**

Just what the name implies.

**A Meat Scrap High in Protein**

Not tanned nor embalmed and thoroughly digestible.

Manufactured by
**Geo. H. Croley**
Poultry Supplies
631-637 Brannan St. San Francisco. Cal.
Obtain it from your dealer, or order direct.

**COULSON'S POULTRY FOODS**
MADE IN PETALUMA
GUARANTEED
SOLD EVERYWHERE

**Northwestern Pacific**
Schedule Effective September 15, 1909
UNION FERRY DEPOT San Francisco

| Leave | VIA SAUSALITO | Arrive |
|---|---|---|
| 7:45a | Petaluma, Santa Rosa, Healdsburg, Cloverdale, Ukiah, Willits, Sherwood, *Sebastopol, *Guerneville | 7:35p |
| 8:15a | Pt. Reyes, Monte Rio, Cazadero | †7:05p |
| 8:15a | Sonoma and Glen Ellen | 6:05p |
| †8:45a | Petaluma, Santa Rosa, Guerneville | ‡7:05p |
| ‡2:45p | Pt. Reyes, Monte Rio, Duncan Mills | ‡7:35p |
| 3:15p | Petaluma, Santa Rosa, Healdsburg, Cloverdale, Ukiah, Guerneville, Riverlanding, Sebastopol. | 11:05a |
| 4:45p | Sonoma, and Glen Ellen | 9:35a |
| 5:15p | Petaluma and Santa Rosa.. | 8:35a |

**ELECTRIC SUBURBAN VIA SAUSALITO**

**Sausalito, Mill Valley, San Rafael**—Daily every 30 minutes from 6:45 a. m. until 9:45 a. m.; hourly until 2:45 p. m., then 3:15 p. m. and every 30 minutes until 7:45 p. m., then 9:00, 10:35 p. m. and 12:01 a. m. (On Sundays in addition—Every 30 minutes from 9:45 a. m. to 3:15 p. m., excepting 2:15 p. m.)

**Fairfax**—Leaves †6:45, 7:15, 7:45, 8:15, 8:45, 9:15, 9:45, ‡10:15, 10:45, ‡11:15, 11:45, a. m.; ‡12:15, 12:45, ‡1:15, 1:45, 2:45, 3:15, 3:45, 4:15, 4:45, 5:15, 5:45, 6:15, †6:45, 7:45 p. m.

**San Quentin via San Rafael**—Leave 9:15 a. m., 1:45 p. m.

**Tiburon and Belvedere**—Week days, 7:30, 9:00, §11:45 a. m. (§12:45 p. m. Saturdays only), 3:30, 5:30 p. m. Sundays—7:30, 10:00, 11:00 a. m; 12:30, 3:30, 5:30 p. m and §12:01 a. m.

*Sunday arrive 7:05 p. m. †Except Sunday. ‡Sunday only. §Saturday only. ¶Via Sausalito.

Pacific Transfer Company's agents are authorized to check baggage direct from residences.


## GOOD DUCKS.

Mrs. D. F. Ulery of Artesia started this spring with four white Pekin ducks. From these she had raised up to the first of July, one hundred and forty-three, besides some that died and two settings that were sold. Of this number she has sold one hundred and eight, many of them at ten weeks of age, averaging about fifty-one cents each. Their principal feed was bran and skim milk, together with grain and abundance of green feed. Mrs. Ulery has a hobby about watering, and instead of leaving water about for the ducks to run to at any time, gives it to them three times a day. She keeps them closely confined all the time, and finds that they are easy to raise and profitable, especially where they can have access to abundance of skim milk.

## POULTRY QUERIES.

### May Be Chicken Pox.

I have a turkey with head and neck and also all over her body swelled very badly and she has been that way for over a week now. She eats well, is lame.—K. E., Loomis, Cal.

This is a difficult case to diagnose. If the nature of the swelling were more explicitly explained it would be an easier task to discover the cause. There is a disease called wind-puff, which will cause a swelled appearance sometimes covering the whole body, and which may be cured by pricking the skin in different places, carefully, and letting the air out when the skin will go back in place where it belongs and the bird be entirely relieved, although it may swell up again to some extent, when the same treatment will relieve in the same way.

If the swelling was in the form of small lumps, I should suspect chicken pox and advise the free use of camphorated lard or carbolic ointment twice a day, with nourishing and easily digested food, and a teaspoonful of sulphur and some chopped onions once a day, until cured. Keep separate, as chicken pox is very contagious and young birds especially liable to catch it.

After using the greasy ointments a few days, it is advisable to wash well with warm soap-suds in which a few drops of carbolic acid have been dropped, say ten drops to a half pint of the soapsuds.—Mrs. F. M.

### Worms.

We have been fattening two month old Leghorn roosters and I killed one today and in cleaning it found a white worm about three inches long in the intestines. What do you think caused this and what can we do if other chickens should have them? We are inexperienced in the chicken business. Sincerely C. J. W., Pomona.

Chickens, like children, will get worms, and it's hard to tell just how. The round worm is the kind chicks have, and while a few will not seri-

(Continued on Page 359.)


**Coulson's EGG FOOD**

At this time of year the hens are apt to begin falliug off in their laying, and it is necessary for poultrymen to keep them up as long as possible. If they stop laying too early and start molting, they are likely either to take a long time over the molt, or if they molt quickly to have another molt in the late fall.

A scientifically prepared Poultry Food like COULSON'S EGG FOOD, fed at this time will help greatly to keep the hens laying up to and well into their molting time, with consequent satisfactory profit to their owners.

Remember that all egg foods are by no means alike, and it is advisable for you to buy a brand that has stood the test of time.

COULSON'S EGG FOOD is therefore what you want to give you RESULTS, and keep your flock in healthy condition for the molt.

For sale by dealers everywhere. Write for our free book "Poultry Feeding for Profit" with samples of our Poultry Food.

**Coulson Poultry & Stock Food Co.**
**Petaluma, California**

GERMAIN SEED CO., Los Angeles
Distributing Agents for Southern Cal.

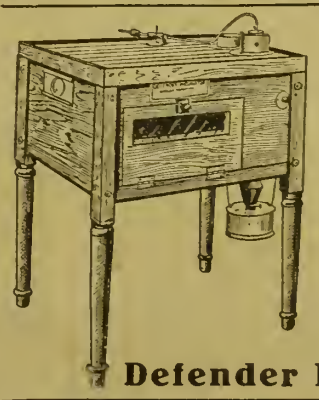
**STANDARD EGG FOOD**

The kind that makes hens lay when other foods fail.

90 Lb. Sack $2.35

Acme Roup Cure is Guaranteed. 50c Postpaid.

**HENRY ALBERS CO., 845** S. Spring St. Los Angeles



**Defender Incubators** Are the machines that will hatch chickens that live and grow. Defender is the only incubator in which the principles that underlie the hatching of chicks from a practical standpoint is correct. WE GUARANTEE THE DEFENDER TO HATCH A LARGER PERCENTAGE OF FERTILE EGGS, chicks full of vim and vigor and bound to live and bring a profit that tells. Remember, Defender Incubators have the most successful pipe heating system ever put in an incubator. The case is made of redwood. Nothing but high grade materials used in the Defender. Has many improvements not found in any other incubator. The regulating flue can be removed and soot cleaned from the inside of boiler; no accumulation of soot to cause smoke and death dealing fumes. Simple and economical in operation. SOLD ON 30 or 60 DAYS' FREE TRIAL. Why Defender is superior to all others explained in free catalog. Be sure to have your name on our mailing list and get our free poultry lectures; we begin mailing January 1st.

**Defender Incubator Co.** Dept. D, Livermore California

**WARD'S ORIGINAL FIRELESS BROODERS**
PRODUCES STRONGER, HEALTHIER CHICKS THAN ANY HEATED BROODER
FULLY GUARANTEED
NO LAMPS. NO OIL BILL. NO DANGER OF FIRE
WRITE FOR ILLUSTRATED BOOKLET AND DELIVERED PRICES
Coulson Co. GEN. SALES AGTS BOX C. PETALUMA CAL.

# CONGO
## NEVER LEAK ROOFING

WE OFFER to the consumer the best Ready Roofing proposition on the market to-day. We don't make Congo just to sell to a floating kind of trade and then forget about you.

We make Congo *to wear*—to give satisfactory service. We not only want your trade, but your good will. We want every buyer of Congo to be a *satisfied customer.* That's our best advertisement.

To this end we have made Congo just as good as a ready roofing can be made. We have tested it in every possible way, and by long continued service. We are so satisfied that Congo is the longest wearing ready roofing on the market that we have made arrangements with the National Surety Company to issue a Guarantee Bond *with every roll of Congo.*

These bonds cost us money, but they add not a cent to the cost of Congo to you.

Before the National Surety Company would assume this responsibility, they convinced themselves beyond a reasonable doubt that Congo would do all we claimed for it. And there isn't another Ready Roofing on the market to-day that carries a like guarantee.

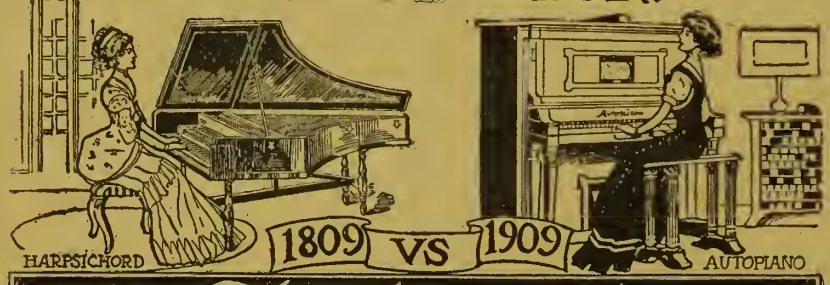
Don't you think that a roofing in which the manufacturers show such confidence is worth investigating?

Send us your name and address and we will mail you a Congo sample free with our booklet telling all about it.

**UNITED ROOFING AND MANUFACTURING CO.**
**WEST END TRUST BUILDING, PHILADELPHIA, PA.**
**Chicago** Blake, Moffitt & Towne, Los Angeles Agents **San Francisco**



# HUDSON-FULTON CELEBRATION.




# The Autopiano

## 100 Years!

***What a Stride***
***The World Has Made***

The celebration of Robert Fulton's trip up the lordly Hudson over a hundred years ago, was no more marvelous than the introduction of the

88-NOTE AUTOPIANO

Who ever dreamt a century ago of a piano that anyone could play—even a child could play with the grace and feeling of the most talented musician?

The AUTOPIANO has freed us from the slavery of tedious finger exercises and daily practice on the piano. It enables us to play, understand and enjoy the world's best music. We have sold nearly 1000 AUTOPIANOS in Los Angeles and vicinity.

OVER 5000 ROLLS OF MUSIC IN OUR FREE LIBRARY

We furnish music Free and Change as often as desired.

YOUR PIANO TAKEN IN EXCHANGE AT FULL VALUE.

Sole Agency For South West
**BARTLETT MUSIC CO.**
231 South Broadway, Opp. City Hall, Los Angeles


# Irrigation and Forestry

### A STORY IN PICTURES.

The following engravings taken from "Conservation of Resources in California" which is a part of the Twenty-Third Biennial Report of Edward Hyatt, Superintendent of Public Instruction, gives a forceful illustration of need of storing the floods. This is a most acceptable move on the part of the leader of our educators and we trust will be fully supported.

"It is safe to say that the prosperity of our people depends directly on the energy and intelligence with which our natural resources are used. It is equally clear that these resources are the final basis of natural power and perpetuity. Finally it is ominously evident that these resources are in the course of rapid exhaustion."

A hundred acres of good land made worthless by flood. Orchards smothered and fence posts covered by sand.

As a result of deforestation of the hills above, a little stream swells into a torrent and the rich bottom landsare carried away, leaving only boulders and gravel.

A truck garden ruined by flood. The fertile soil carried away, leaving gullies in some places and piles of gravel and driftwood on others.

# General Agriculture

## PARA GRASS.

We recently had the pleasure of inspecting a small patch of the so-called Para Grass which has been reported as producing such exceptional quantities of forage and hay. Mr. Metcalf of Los Angeles has tested it out both in the city of Los Angeles and on lands in the Imperial Valley. From these tests Mr. Metcalf feels positive that this grass will produce at least ten tons of hay per acre per cutting, growing two cuttings per year. While analysis shows the hay by no means the equal of alfalfa, it is rich in protein and apparently will make a rich stock food. We have never heard the opinion of the stock on this hay, that is, as to whether it is eaten up clean or not, but if it proves acceptable to the animals, it promises to bear such crops that it will be grown where conditions are right for it. It is not a water plant, but it requires plenty of moisture. Therefore, it is not adapted to arid conditions, but for those who have swampy or naturally moist lands we should consider this grass well worth investigating.

The proper name of the grass is panicum muticum though it is often classified as panicum molle.

Mr. W. B. Thomas of Wahiawa near Honolulu, Hawaiian Islands, sends the following account of its worth in the islands.

### Para Grass in Hawaii.

The Cultivator stated in a recent issue that Imperial valley farmers were experimenting with Para grass (Panicum Molle.) About eight years ago Prof. Koebele, brought to these islands from Fiji a small bundle of cuttings of this grass, part of which the writer secured and the balance was planted in the Government nursery grounds. Now it is grown by practically every farmer in the islands and is almost the only fodder grass grown. The value of this crop to the islands is hard to estimate, as hay cannot be successfully grown and cured here, but has to be brought from the coast at a cost of from $30 to $35 a ton.

Last January we planted about 1¾ acres of it from cuttings and May 22 began cutting it. It then stood five feet high and ran 15 tons to the acre. We only cut enough each day for that day's feeding. August 13th we finished the block, and the next day began the second cutting, with a stand equally as heavy as the first. We fed from it 12 to 16 horses and mules and three cows and were not very careful about wasting it. We feed nothing else except rolled barley and our animals keep in prime condition and work hard every day.

If given room this grass will run along the ground and take root from the joints, and in order to get an upright convenient crop for cutting, it should be planted close. After preparing the land, we plow a furrow and put six to eight cuttings in a bunch every foot or so, then run another furrow close enough to at same time cover the first row, and so on. We use cuttings twelve to fifteen inches long and leave part above ground.

While Para grass will grow fairly well with a moderate amount of moisture, to get a big crop it should have frequent rains or irrigations.

---

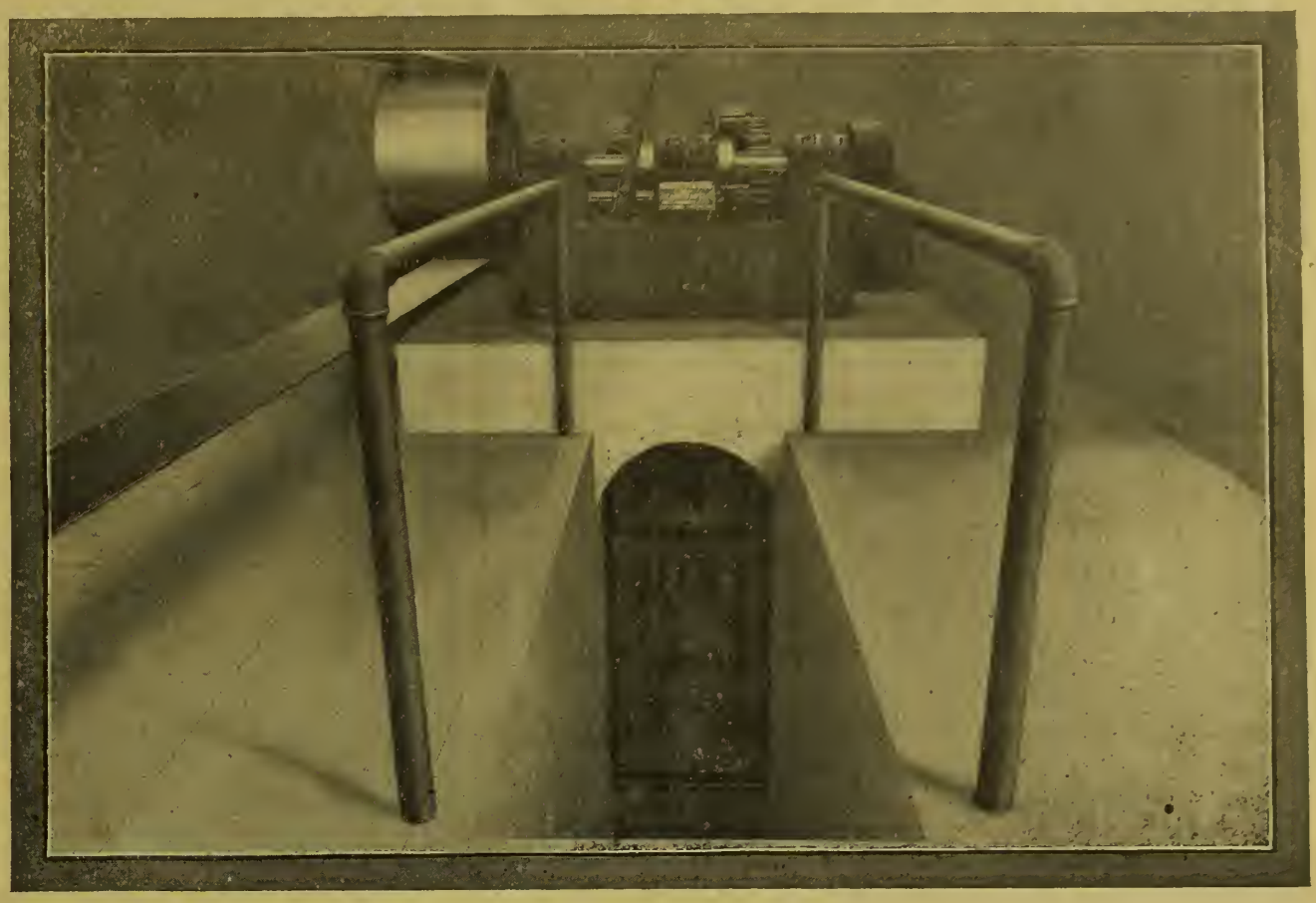
A light top-dressing of manure after sowing, or, in case of fall sowing, any time during the winter, helps to conserve moisture as well as to give the growing plants some nitrogenous food. Applying a top-dressing of stable manure at least every second or third winter is certain to prove profitable. If it contains coarse straw or other litter, this should be raked and hauled off later, but before the alfalfa grows too high, especially if the hay is intended for the city market. Many successful growers in Kansas, who claim to cut from five to seven tons of alfalfa hay per acre in a season apply a top-dressing of manure every winter. The highest yields reported from eastern states are where this practice is followed. Some experiment station men believe that where this is not done the crop will after eight or ten years tend to impoverish the land instead of further improving it.—From Coburn's "The Book of Alfalfa."


Write to the

**A. T. Ames Manufacturing Co.**

**Niles, Alameda County, California**

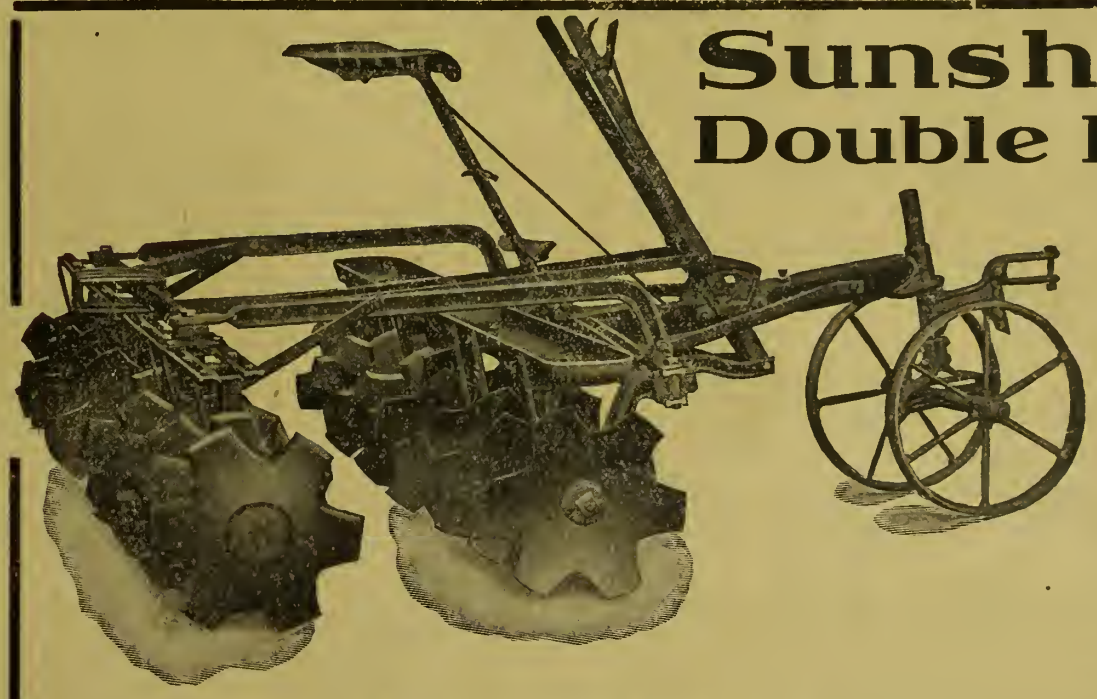
for their 64-Page Illustrated Catalog. It contains information about the Ames system of pumping water for any service.



*No. 30 Ames Pump, 9-in. Cylinder, 200-foot Lift*
*Pump Guaranteed to Run One Year Without Care or Attention*

Send for a sample of our **CALIFORNIA CUPS.** They will outwear any other make.

**A. T. Ames Manufacturing Company, Niles, Cal.**



**Sunshine Double Disc Harrow**

Will thoroughly pulverize and cultivate the soil in one operation, and will leave a level surface.

The 'Sunshine' can be changed from a Double to a Single Disc Harrow in a few minutes' time.

Write for full particulars to

**Newell Mathews Company**

**200 No. Los Angeles St., Los Angeles, California**

**$16.30 buys this handsome six-hole Nickel-Trimmed Cast Range direct from the Manufacturer**

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 20 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

**The Wm. Peck Co.**

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# WHO WANTS A BABY?

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# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Gum on Peaches.

I have had trouble with gum exuding through skin of peaches, also showing more or less over the tree. What is the cause and remedy?—T. S. B., Porterville.

The gumming of the peach is not of regular annual occurrence. Some seasons it is hardly noticeable, while at other times the fruit is affected badly. The cause is present when the fruit is yet green and in the growing stage. Any injury to the skin, such as sting of insect or growth of fungus that hardens and cracks the skin will cause it. Sometimes it will extend to the pit and at others only part way. Lime, salt and sulphur spray late in the winter is the best remedy. This wash destroys spores of fungus and is at the same time a most excellent insecticide.—J. W. M.

### Apricots on Almonds.

Is the almond disirable as a stock on which to bud Royal apricots? Will they ripen any earlier on such stock? If so, how much earlier?—B. E. S., Pomona.

They will not ripen earlier, and many orchardists have formed a definite opinion that the almond root is not desirable for budding apricots. The proper affinity does not seem to exist. The almond does well on its own root.--J. W. M.

### Cement Floor for Stable.

Please tell me how to lay cement floor for cow stable. How shall I mix sand and cement and how shall I prepare the ground?—A. K., Selma.

If the soil is gravelly thorough tamping will put it in condition to be overlaid with concrete. If clay, it should be dug out for about six inches and filled in with gravel or gravelly soil and thoroughly tamped. If soil is clay or tends to hold considerable moisture, you should construct a blind drain of coarse gravel or boulders leading out from under the floor.

For the construction of the ordinary stable or barn floor, which is not to carry any great weight, the following proportion is to be recommended for the concrete base: 1 part cement, 2½ parts clean, sharp sand, and five parts of loose gravel or broken stone. Thoroughly mix, moisten and tamp. This should be finished on the surface with a 1 to 1½-inch layer of a mixture of 1 part cement and 1½ to 2 parts of clean, sharp sand. The total thickness of this floor must be from 5 to 8 inches, depending upon the load it has to carry.

### Gooseberries.

I have three year old gooseberry bushes which show fine growth and look healthy, but do not bear. How should they be pruned?—J. S. B., Compton.

The gooseberry which will do well in the vicinity of Compton, has not yet been found. In fact, nurserymen have long been seeking to find a gooseberry and currant which will bear in that locality. We have been informed by a nurseryman near Los Angeles that he is now experimenting with both gooseberries and currants and has had a measure of success in inducing them to produce, especially in the case of the currants. He has this year some exceptionally fine fruit in sufficient quantity to be profitable. We hope these experiments will be continued until plants are secured which will produce commercial crops. Until that time we do not think our Compton subscriber can make his plants bear by any method of pruning which he may follow. Climatic conditions there are not favorable to that fruit.

### Lupine Seed.

Please tell me where I can secure lupine seed, what is the price, and what amount should be sown per acre?—Subscriber, Hemet.

Lupine seed can be secured for you by any of the seedmen advertising in the Cultivator, at about $9.00 per hundred. It is far more expensive than vetches or peas and they are usually preferred for green manuring. If that is the purpose for which you wish it, it would require 75 pounds per acre in field or 50 pounds in orchard.

### Draft Horses.

Where is the most reliable draft horse stock farm, and about what is the price of such horses?—Subscriber, Hemet.

J. Crouch & Sons of Sacramento are importers of fine draft animals as is also the Lafayette Stock Farm at San Jose. A young draft team will command from $500 up.

### Sour Soil.

How can I correct the condition of soil in my garden which is full of sorrel and not in good shape for ordinary planting?—T. A. K., Bridgeport, Conn.

Application of lime is desirable for such land. If in bad condition, 1000 or even 2000 pounds of sugar factory lime is often used. If you cannot obtain this form of lime, the ordinary air slacked should be applied. It must be well slacked, however, as quick lime is too caustic. We would prefer to make an application of about 500 pounds per acre to be followed by a second if needed. Plowing under of stable manure and thorough tillage to allow air to penetrate soil will also prove very valuable. We note that farmers in many Eastern states are applying ground, un-


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burned lime rock to benefit such soils.

### Forage for Dry Land—Eucalyptus.

I am located in Ventura ten miles from the coast, where we get plenty of rainfall in the winter months and have range of temperature from twenty-five to one hundred degrees. Soil is dark colored, hard to work but very rich, and makes good crops of hay, grain and corn, without irrigation. Would it be advisable to plant alfalfa without irrigation, seeding in rows so as to allow of cultivation? If this would not pay, what other perennial forage plant is desirable? What kinds of eucalypts would do well under same conditions, to make hard wood, be used for fence posts, etc.?—S. B. W., Ventura.

The first question is an extremely hard one to answer intelligently without knowing sub-soil conditions, distance to water, and other factors which determine crop successfully grown. We do not think alfalfa planted in rows and cultivated would pay under the circumstances. The desirable forage plant which will do well under these conditions is what the state has been seeking for many years. If your soil will grow a fair crop of corn, we believe that alfalfa would be as satisfactory a crop as could be planted. It would probably yield two cuttings in the springtime and considerable pasture through the summer, but, as we said, sub-soil conditions will govern.

The blue gum, or eucalyptus globulus, would doubtless be the best tree for your conditions. If you never experience a temperature below twenty-five degrees, it would be almost perfectly adapted to your situation and yield a profitable crop. It is proving a most valuable hard wood.

### Brome Grass.

What are the bad qualities of Bromus Inermis? The seedsmen unite in extolling it, but the subject would be more complete if we had the growers' experience. If it is what is claimed, it is of sufficient value that it should be better known.B. J. O'-Mealy.

Brome grass has been used largely in Europe for a forage grass. It has been planted to a limited extent on the Coast. We will be pleased to give opinions from those who have tried it.

### Bermuda Grass.

How can I get rid of Bermuda grass? Is there a quicker way than drying it out? If the land is sub-irrigated, then what method can be employed?—A. L. S., Imperial.

The only way to get rid of Bermuda grass is by thorough and deep cultivation continued through the season. That is the only way we have found that is satisfactory. Of course, the chemical process can be used, but it is expensive and destroys the land for other plants for a period of time. Where the Bermuda is in alfalfa field or crop of that kind where it cannot be cultivated out, we know of no other way than to rotate crops, giving clean cultivation till it is disposed of.

### Pickling Olives.

In what month are green olives gathered for pickling, and when the ripe ones?—L. H., Creston.

This depends upon the variety and somewhat upon the season, pickers pick according to coloring and not by date. Those who grow the Mission variety prefer to allow the olives to color slightly, that is to show a purplish tinge. The fruit is then firm and contains a large percentage of oil and is in proper condition for pickling. The Mission olive is a rich dark purple when ripe. Experience will very quickly teach you when to pick the ripe fruit. For directions as to curing, see Citrus and Sub-tropical page of next issue.

### Unruly Cow.

We have an opportunity to buy a good milch cow because owner cannot keep her inside of fence. Her yoke does not prevent her from vaulting any fence. Is there any way of controlling her? We have young heifer with second calf which shows no sign of coming in heat. Can you suggest remedy?—Subscriber, Arroyo Grande.

Set upright poles at opposite sides of the corral, of equal height and strong enough to carry a wire cable. Place a small trolley wheel on the wire and attach cow to it by ring in her nose. The ring is much safer than rope around the neck. The rope from trolley should only be long enough to allow the cow to lie down, as if too long, she will get tangled in it.

The trouble with the heifer should be treated by a veterinarian, for if one did not understand the conditions, the trouble might be made worse.—M. E. S.

### Melons for Cow.

Can you tell us how cow melons (citrons) affect the milch cow? Can they be fed seeds and all with benefit?—S. R., Hemet.

Cow melons are valuable for succulency and will add to the milk flow considerably when the cows are on hay or dry feed. While their nutritious value is not high enough for them to be considered as of much worth for the solid part of a ration, they do afford the watery portion that brings back the hay to a nearly grass condition. The seeds are not injurious and we never trouble to remove them.—M. E. S.

### Olives.

I should like to know about how much olives will pay per acre. If you care to do so, I shall be greatly obliged if you will give me your past experience on that point. I should also like to know what varieties seem to pay best, and how you find your market for the fruit. How soon do the trees begin to pay? How much irrigating do they demand?—W. O. S., Berkeley.

The olive bears a full crop alternate years and the off year the crop is about a fourth of the "on" seasons. The buyers seek the good orchards and there has never been any trouble in selling our crops, I believe the tales of woe we hear are from people who have ten or a hundred trees and have to take whatever they can get for the fruit as it is not enough to make the buyer eager for the lot. Our olive trees bore a $1500 crop the fifth year from planting. They have never failed to produce for the past ten years. Roughly speaking the "on" years the crops sell for from $200 to $250 an acre, the off years for $90 to $125 an acre. While the trees were young they were irrigated three times during the summer and kept in constant cultivation. Much of our land is rough and the trees were watered with cart. Some blasted as the hard pan was on the surface. After the trees are five years old we irrigate them in August to secure a swelling of the berries. We are intending to plant another orchard as fast as we can grow the trees for it, for we want only the offspring of the trees that have proven productive on our soil and under our cultivation methods.—M. E. S.


# Classified Liners

Rates 1½ cents per word per issue No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

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## MISCELLANEOUS.

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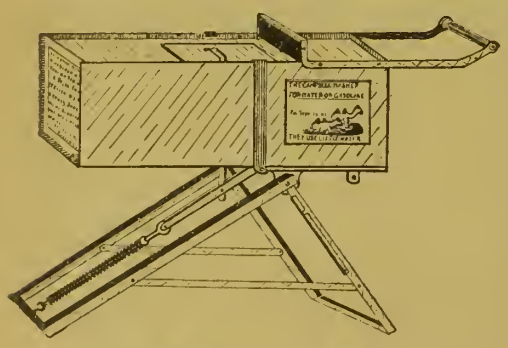

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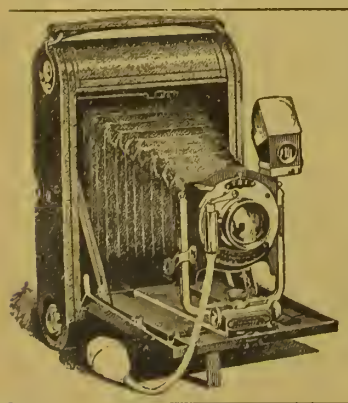

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# Household Department

### THE ENGLISH LANGUAGE.

A pretty deer is dear to me,
A hare with downy hair,
A hart I love with all my heart,
But barely bear a bear.

'Tis plain that one takes a plane
To halve a pair of pears,
Although a rake may take a rake
To tear away the tears.

A scribe in writing right may write
To rite and still be wrong;
For rite and write are neither right,
And don't to right belong.

Beer often brings a bier to man,
Coughing a coffin brings,
And too much ale will make us ail,
As well as other things.

The person lies who says he lies
When he is not reclining;
And when consumptive folks decline
They all decline declining.

Quails do not quail before a storm,
A bough will bow before it;
We cannot rein the rain at all,
No earthly power reigns o'er it.

The dyer dyes a while, then dies—
To dye he's always trying;
Until upon his dying bed,
He thinks no more of dyeing.

A son of Mars mars many a son;
All Deys must have their days;
And every knight should pray each night
To him who weighs his ways.

'Tis meet that man should mete our meat
To feed one's fortune's sun;
The fair should fare on love alone,
Else one could not be won.

Alas, a lass is something false,
Of faults a maid is made;
Her waist is but a barren waste,
Though stayed she is not staid.

The spring shoot forth each spring and shoots
Shoots forward one and all;
Though summer kills the flowers it leaves
The leaves to fall in fall.

I would a story here commence,
But you might think it stale;
So we'll suppose that we have reached
The tail end of our tale.

---

### WHEN COMES YOUR TURN.

THE man who sits at the desk in front of mine and pounds a typewriter which is entitled to the respect we accord vigorous old age writes a screed to fill this space, or some other space, every two weeks, and I, as you may have observed, alternate with him. Dear, dear, but I am tickled when his turn comes, for the article means extra work, and extra work and I are not friends, never speaking as we pass by each other if we can help it. When his turn arrives I look at him across my table, and say:

"Aha! It's your turn now! Hope you enjoy it. You'll have to earn your salary this week while I sit around and watch you. I wish you joy."

Then my turn comes, and, while he is not so demonstrative as I, he says more in less words, and, oh, how his pointed remarks anent my extra stunt do cut and rankle. He is a quiet man, like Bret Harte's Mr. Brown, but, heavens and earth, children, how his words do hit the palpitating mark when he responds to the toast that I gave his extra labor the week before.

So we have it back and forth, and I can see that there is real humor in what I say to him, but blowed if I think there is anything funny about his return addresses.

I have been thus explicit in outlining our situation here because I think it forms a pretty good text for a Sunday sermon to be delivered by a parson without a clerical cravat and several other pulpit accessories. Did it ever occur to you, my brethren and sisters, how much easier it is to bear some other fellow's burden than it is to tote your own? Ah, you bet it is, Why, I would sooner bear the loads for a whole community than to carry a small one for myself, and it is the same with you.

Here is a fellow who really has been hit a pretty hard blow by fate. I realize it, and I am sorry for him. "Yes, it's tough," I say to myself, turning away from him, "still, he ought to be philosophical and, realizing that this is a world of tribulation, make the best of it. What he needs is a little philosophy." In the final analysis that is about the way I say it. Don't you?

But hard-hearted fate keeps skirmishing around, and after a while it runs across me and gives me precisely such a blow as it gave the other fellow. Now where is the philosophy of which I prated when only somebody else was involved? Gone; faded away like the dews of the morning, non est; just stepped out; not at home, and things like that. Ah, it is then we learn that our philosophy is a coat we cut to fit some other fellow's need, but it is so thin and gauzy that it will not keep a single raindrop of woe from our own persons. It is a mighty good garment to wear in fair and sunny weather, but you will do well not to trust too much to it when the clouds hang low. Of course the other fellow ought to wear it, but that is a very different matter, as anyone can see when the pain of the stab is his.

We say "too bad!" when the other chap is hurt, and the expression or sympathy is very genuine while it lasts, which it does until it is time for the theater or something of that sort. But when our turn comes, and we ourselves are hurt, well, that is a good deal more than too bad, and don't you forget it! It is real pain this time, and not the kind that some other fellow has to suffer. Did you ever notice that you never said "a big, big D" because some other man's corn was stepped on? But how often have you said, or thought, it when some clumsy wretch who deserved asphyxiation stepped on your own little pet? Quite a different case, wasn't it? Do your best, you couldn't act precisely the same in each instance. Now, could you?

Should we, then, give up the hopeless attempt to attain unselfishness? Well, we had better give up anything else first, for precisely to the extent that we earnestly make such an attempt will our lives be valuable to the world and ourselves. Hear a parable.

In the morning of life a certain youth who loved the beautiful started to climb to a distant summit, for he saw that God's spirit of light first wrote its message there in the dawn, and lingered there longest and most lovingly in the eventide. "I will go there," he said to himself, "where the glory of the white light will be most about me."

There were some who discouraged the youth, saying, "The summit is

unattainable," and yet others who told him, "We have tried, and failed," but he went his way, ever toiling upward and still upward.

And the years dragged wearily on until he who once was a youth no more was so, and still, with the strength of manhood upon him, he toiled upward, and yet upward; and the white summit still was far away, but the dawn broke earlier and the twilight lingered longer about him.

And still the years dragged on, and now he was old, and his feet stumbled often as he crept upon his upward way. The summit yet was far away, but the glory of the white light was about him through many hours when the world below him was in darkness.

And then, being old and worn, he laid him down and slept, and, sleeping, smiled. And there are those who say that a bright messenger came and carried him away to the summit where the sunlight ever smiled. But whether this be so or not, this do I know: That his life journey was far brighter and more beautiful than it would have been had he lingered in the valley where the shadows lurk.

And so ends the parable.

When comes your turn—I don't wish to make this a species of miserere, for notice this my little flock: Life is a pretty good sort of game, and our turn to have a little fun comes pretty often. To be sure, we sometimes get a plexus blow just as we were intending to laugh, but that doesn't happen so often that we need to be regularly anticipating it, as, judging by the expression of your countenances, some of you appear to be.

When comes your turn—Let's get at it in another way; say, something like the following, for instance:

### When Comes Your Turn.

When comes your turn perchance 'twill smile for you,
Or it may frown as on its way it wings,
For here's a word that you'll admit is true:
We know not well what any morrow brings;
But this we know, and this we'll say, my lad:
Though Fortune smite us till the system reels,
She cannot drive us wholly to the bad—
The soul is greater than the blow she deals.

When comes our turn—Oh, come it foul or fair,
It still shall find us standing as we may.
The burden may be sore and hard to bear.
But, faith, there's strength in even human clay.
Ah, never mind a fall, for falls don't count,
To him who, stricken earthward, upward springs.
A fall is but a place from which we mount,
For we are MEN, and vastly more than kings.—A. J. Waterhouse.

## FOR CLEANING WOOLEN FABRICS

THERE is no cleaner that can be used so safely in renovating delicate colored woolen garments as soap bark. The right way to use the bark is to make a thick lather in cold water with the hands, only a small quantity of bark being required for a tubful of lather. Add hot water till the suds is moderately warm and it is then ready for washing any delicate colored fabric, and such goods must always be hung in a shady place to dry.

Any light colored woolen garment that is not soiled enough to be washed can be cleaned beautifully with powdered French chalk, and as the powder is very inexpensive it can be used liberally. First spread the garment on a table and sprinkle the chalk all over the fabric, then brush it in the goods thoroughly with a fine brush, and when every inch of the goods has been cleaned in this way, shake the garment and brush with a clean soft brush, and press if necessary.

White woolen waists and dresses can be kept soft and white as long as they last by stirring enough pearline in hot soft water to lather freely and about a teaspoonful of ammonia. The garment must be cleaned by pressing and rubbing between the hands then rinsed in a very light suds, but a little blueing water should be used instead of ammonia. Press as much of the water out as possible and hang the garment over the line without wringing, and before it is quite dry, iron on the wrong side until perfectly smooth and dry.

All woolen goods can be washed in this way no matter what the color or how soiled the goods, only for black goods the rinsing water must be made very blue with common blueing. When pressing the goods, the ironing must be done slowly with irons not too hot nor too cold, moving them just fast enough to prevent leaving the print of the iron on the right side of the goods.

Before washing a woolen skirt, baste the pleats down carefully and they will look better and be much easier to iron smooth.—Aline.

## RECIPES.

### Rock Cookies.

Three-fourth cup brown sugar, one-half cup butter, two eggs, one cup flour, one cup stoned raisins, one-half cup nut meats, one-half teaspoon soda dissolved in a teaspoon of cold water. Do not beat eggs but add one at a time in the mixture; drop in spoonfuls and bake.—Mrs. William Bjerke.

### Raspberry Cake.

Mash raspberries with sugar and let stand an hour or two. Make a two-layer cake as follows: One cup flour, one-third corn starch, one cup sugar, one teaspoon baking powder, one-half teaspoon salt, three eggs, five tablespoons hot water, and flavor. Spread crushed berries thickly between the layers and on top. Beat the whites of two eggs till stiff, sweeten and spread on top. Return cake to the oven till meringue is a delicate bhown.

### Plum Pudding.

One cup of suet chopped fine, one cup of currants, one cup of raisins (seedless are best), one small cup of sugar, one cup of flour, one cup bread crumbs, one-half cup lemon peel cut very small, three eggs, one-half teaspoon salt, one teaspoon baking powder, onehalf teaspoon ground ginger, one-haif teaspoon ground nutmeg, or any other spice preferred; mix with rich milk to a stiff batter so that a spoon will stand upright in it, tie tightly in a cloth and boil for four or five hours. Sauce for pudding:—Cream together four tablespoons sugar, two tablespons butter, two tablespoons flour or corn starch; add a pint of milk or water and boil until it thickens. When a little cold add one beaten egg; flavor with lemon or any flavoring to suit the taste.

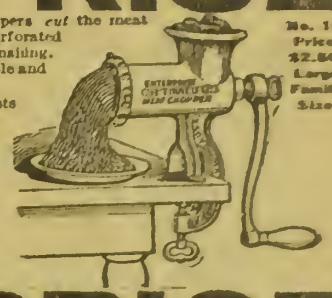

ENTERPRISE

Meat and Food Chopper

"Enterprise" Meat and Food Choppers *cut* the meat with a revolving steel knife against a perforated steel cutting plate without tearing or crushing. Easily cleaned. Practically unbreakable and will last for years.

The No. 5 "Enterprise" Chopper costs only $1.75; No. 10, shown in cut, $2.50. They are standard family size, and not only save half the work at butchering time, but are useful in the kitchen every day in the year.

Made in 45 sizes and styles for Hand, Steam and Electric Power. We also make cheaper Food Choppers, but recommend the above for the reasons given. Illustrated catalog free. Sold at Hardware and General Stores, etc.



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Lessens the labor at butchering time. Two machines in one. Well made and does its work quickly and surely. Cylinder is bored true and plate fits accurately. Pressure cannot cause meat to rise above the plate. The Patented Corrugated spout prevents air from entering casing, ensuring perfect filling and preservation of sausage.

Machine can be changed into a *Lard Press* in a minute's time. Can also be used as a Fruit Press.

Your dealer will be able to supply you with the "Enterprise" Sausage Stuffer and Lard Press

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Bone, Shell and Corn Mill

The "Enterprise" Bone, Shell and Corn Mill is a good all-round mill for farmers, poultrymen, etc. and for compactness, strength and durability is unexcelled. Handy for grinding poultry food and making bone meal fertilizer. Mill shown in cut $3.50, weight 60 lbs., grinds 1¼ bu. corn per hour. Look for the name "Enterprise" on the machine you buy.

Grind up dry bones, oyster and other shells, corn, etc., for your hens and watch results.

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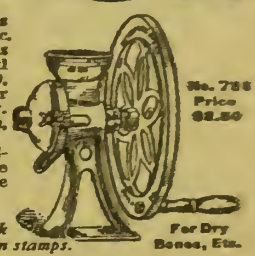

No. 78½ Price $3.50 For Dry Bones, Etc.

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F. BROWNSBERGER, President.

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Oct. 6, 1909.

### Butter.

Another advance of 2½ cents is noted on butter. Receipts are very heavy and market on the better grades somewhat dull.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

Creamery per roll .....70@72½
y per roll .....30
Eastern Creamery per roll .....70
Cooking .....27
Ladies .....25@26

### Cheese.

Anchor large .....20
Northern fresh .....18
Anchor Young America .....21
Domestic Swiss .....23
Imported Swiss .....31@32

### Eggs and Poultry.

Eggs advance again with demand for storage slow. Locals also not picked up rapidly at the advance.

Paying price f. o. b. L. A. is:

Eggs .....43@45
Case count buying price .....39
Eastern fresh .....34
Storage .....32

Dealers pay for live poultry f. o. b. L. A.

Hens per pound .....16@18
Stags and old roosters .....7@8
Fryers 2 to 2¾ lbs. .....16
Broilers 1¼ to 2 lbs. .....19@20
Roasters 3 lbs. and up .....17
Turkeys .....19@23
Geese .....12@13
Ducks .....12@15
Squabs .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds .....7½
Prime steers .....4@4¼
Heifers .....3½@3¾
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.25@3.50
Wethers .....4.50@5.00

### Potatoes.

Wholesale prices are:

Yellow sweets per ctl .....1.85
Burbank local .....1.00
Highlands .....1.00@1.25
Salinas .....1.60@1.65

### Onions.

Wholesale quotations:

Silverskins, local .....1.00@1.10
Northern Yellow Danvers .....1.25
Australian Browns per sack .....1.25

### Vegetables.

Artichokes locals .....75
Beets per sk .....90
Beans string .....5@6
Brussels sprouts per lb. ..... 9
Bell peppers .....3@4
Cabbage, per sack .....1.00@1.35
Celery per doz .....50@60
Chili per lb .....3@4
Cucumbers per box .....40
Cauliflower per doz .....1.25
Carrots per sk .....90
Corn per box .....50@60
Egg plant per lb. .....3@4
Green onions per doz bunches.....20
Hubbard squash per lb .....2½
Summer squash per box .....40
Lettuce choice .....1.00@1.25
Leeks .....40
Oyster plant .....40
Okra per lb .....5@6
Peas per lb. .....5@6
Parsley doz .....25
Parsnips .....40
Pieplant per doz .....15@20
Rhubarb, No. Strawberry ....1.75@2.00
Rhubarb, crimson winter .....1.25
Spinach per doz. .....15@20
Turnips sk... .....90
Tomatoes lugs .....40@60

### Citrus Fruits.

Valencias .....2.25
Grapefruit .....2.00@3.25
Lemons, halves .....2.00@2.25
Limes, halves .....1.50@2.00

### Fresh Fruits.

Wholesale prices on the market are:

Alexanders .....1.00@1.75
Bellefleurs .....90@1.25
Fall Pippins .....75@1.25
Pearmains Red .....1.25@1.35
Greenings .....75.@1.25
Smith Cider .....75
Casabas per crate .....1.35
Cantaloupes Jumbos .....2.00@2.50
Christmas melons .....2.00
Figs .....1.00@1.10
Grapes lug box .....50@90
Peaches .....8
Nectarines .....7@8
Peaches, per box .....90@1.10
Pears Bartletts box .....2.00
Plums .....1.00@1.25
Pomegranates .....1.00@1.25
Quinces .....1.00@1.25
Raspberries .....12½
Blackberries .....7
Strawberries .....5@7
Watermelons per lb. .....1

### Dried Fruits.

Wholesale prices are:

Apricots .....10@11
Evap apples fy per lb. .....10
Figs loose .....5
Peaches .....5@7
Pears .....7@8
Plums pitted .....7@8
Nectarines .....7@9
Prunes .....4½@7½

### Beans Dried.

Wholesale prices are:

Limas per ctl .....4.50
Pink No. 1 .....3.75
Black eyes .....4.00@4.25
Lady Washington .....4.00
Small White .....5.00
Garvanzas .....4.50
Lentils .....7.00@8.00

### Nuts.

Prices as named by the Southern California Walnut Groves Association at its recent meeting are as follows:

No. 1 soft shell .....11½
No. 1 hard shell .....11
No. 2 soft shell .....7½
Almonds IXL per lb. .....15@17
Pecans polished .....15@16
Peanuts California .....5
Peanuts Eastern .....7

### Honey.

Wholesale quotations:

Extracted water white .....7½@8
Extracted Light Amber .....5½@6
Comb Water White .....15
Comb, white .....12½
Beeswax .....25

### Hay.

New Barley hay .....8.50@14.00
Alfalfa, local .....11.00@12.00
New alfalfa Imperial .....10.00@11.00
Northern .....10.50@12.00
Wheat hay .....10.00@12.50
Tame oat .....10.00@15.00

### Grain.

Wholesale selling price f. o. b., Los Angeles:

Wheat new per ctl .....1.90@1.95
Kaffir corn .....2.00
Corn Eastern bulk .....1.75
Egyptian corn .....1.80
White oats .....1.75
Seed Rye .....2.10

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

Cracked corn .....1.80
Shorts .....1.85
Bran .....1.60
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....2.50
Feed meal .....2.00
Rolled Barley .....1.50

## San Francisco Markets

SAN FRANCISCO, Oct. 5, 1909.

### Butter.

Butter has advanced 3 points on extras. Market is very firm at the advance.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

California extras per lb. .....35
Cal. firsts .....30
Californa seconds .....28½
Storage extras .....30

### Cheese.

California flats .....14@15
Cal. Young America fy .....15@16½
Young American Oregon fy .....17

### Eggs and Poultry.

Eggs are very firm and have taken an advance of four cents during the week. The principal advance was last Saturday.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras .....48
Firsts .....43
Storage .....31
Seconds and thirds .....24@30
Hens per doz .....5.00@10.00
Roosters per doz .....4.00@10.00
Fryers per doz .....5.50@6.50
Broilers .....3.00@5.00
Geese per pair .....$1.50@2.50
Ducks .....4.00@8.00
Turkeys .....20@25
Pigeons young .....1.00@2.50

### Live Stock.

San Francisco prices gross weight:

Steers .....2¾@4⅝
Cows and heifers .....2@3½
Hogs .....4½@7¼
Calves per lb. .....4@5¼
Milk lambs .....5¼@5½
Wethers No. 1 .....4½@4¾
Ewes No. 1 .....3¾

### Potatoes.

Wholesale market quotations:

River Whites crates .....55@70
Salinas .....1.25@1.50
Sweets crates .....1.60@1.75
Oregons .....1.00@1.15

### Vegetables.

Wholesale quotations:

Asparagus per box .....50@1.00
Bell peppers per box .....40@50
Cabbage per box .....2.00@2.25
Cauliflower doz. .....75@1.00
Carrots per sk .....65@75
Cucumbers per box .....40@50
Celery, doz .....25@30
Chili peppers per box .....40@65
Corn per sk .....75@1.25
Egg plant per box .....35@50
Green peas per lb. .....4@5
Okra .....35@50
Onions green per box .....50@60
Rhubarb per box for bay ....1.25@1.50
Squash per box .....50@65
String beans .....2@3
Tomatoes .....25@50
Wax beans .....3@4
Lima beans .....5@6
Garlic .....4½@5

### Onions.

Yellow onions .....70@85

### Citrus Fruits.

Valencias .....2.50@3.50
Grapefruit .....1.00@3.25
Lemons .....1.50@4.50
Limes .....5.50@6.50

### Fresh Fruits.

Bellflowers .....90@1.50
Common .....75@1.00
Figs blk box .....25@40
Grapes seedless .....40@60
Tokays .....40@50
Malagas .....50@65
Rose of Peru .....50@60
Cornichon .....60@70
Muscats .....50@60
Isabellas .....60@75
Zinfandel and wine grapes per ton .....8.00@14.00
Cherry plums per box .....25@35
Peaches per lug box .....60@75
Peaches per lug box clings ....50@85
Plums boxes .....60@75
Pears Bartletts .....75@2.00
Cantaloupes .....75@1.00
Nutmegs per box .....40@60
Pears box .....60@1.50
Pomegranates .....50@2.00
Quinces .....50@75
Blackberries per chest... ...2.00@3.00
Huckleberries per lb. .....10@12½
Raspberries per chest .....3.00@5.00
Strawberries per chest .....2.00@4.00
Watermelons per doz .....1.25@2.00

### Dried Fruits.

Prunes 4-size basis .....2¼
Santa Clara .....2½@2¾
¾ cent premium for larger sizes..
Apricots per lb. Royal .....9@10½
Apricots Moropark .....10@12½
Peaches—Choice ...4½; Fancy ....6½
Apples evap .....6½@8½
Pears .....6@8
Figs .....3@4
Nectarines .....5@6
Plums .....7@8
Apples .....7½@8½

RAISINS—1908 crop, f. o. b.: Fancy Seeded No. 16, cartons, 4½c; do. No. 12, 3¾c; do, Choice, No. 16, 4c; do, Choice, No. 12, 3½c. 50-lb. bxs: Loose Muscatels, Standard, 4-crown, 4c; 3-crown, 3c; 2-crown 2½c; Seedless Thompson, unbleached, 3½c; Seedless Sultanas, unbleached. 2¾c; Dried Grapes, 2c; London Layers, clusters, 6-crown, $3; 2-crown, 90c; 3-crown, $1; 4-crown, $1.50; 5-crown, $2.50.

### Nuts.

Walnuts soft shell No. 1 .....12½
Walnuts S. S. No. 2.....7½
Walnuts, hard shell .....9
Almonds '09 N P U .....12¾@13¼
Almonds '09 nonp .....14½
Almonds '09 I X L .....13½@14
Pecans .....15@17
Chestnuts .....2@10
Peanuts .....5@6
Pine nuts .....22½@25

### Beans Dried.

Limas .....4.00@4.10
Pink .....3.15@3.25
Small white .....4.25
Large white .....3.00@3.15
Black eyes .....4.00
Red kidneys .....4.00@4.25
Garvanzas .....3.00@3.25
Bayo .....3.65@3.80
Horse Beans .....1.75@1.90
Cranberry .....4.25@4.50

### Hops.

Hops 1909 crop .....20@23
Hops 1908 crop .....14@16
Old .....8@10

### Honey.

White comb .....14@15
Light Amber .....10@12
Extracted W W .....7½
Extracted light amber .....6½@7
Beeswax per lb .....25@29

### Hay.

Scott, Magner & Miller say:

Recepits of hay for the six days just past have amounted to 4300 tons. These heavy arrivals, in addition to the large quantities that have come into this market during the last three weeks have proved a heavy burden to the situation at this time. The little rain that we had at the end of last week plainly showed it to be a necessity to remove the hay from the fields at once, and every effort therefore has been used since that time to do so.

The railroad yards here in the city were overcrowded with hay at the opening of the week. Our own firm alone had the large amount of 86 carloads on the railroad tracks on Monday morning.

Export shipments have been decidedly moderate, and this statement will also cover on coastwise shipments. We have had many inquiries for hay for outside shipments, and much might have been done in this direction to relieve the market here if prices throughout our markets had ranged on a lower basis, and in closer sympathy with the heavy stocks on hand throughout the country tributary to San Francisco.

Alfalfa hay is lower; the demand has not been as active as anticipated, and the supply has been exceedingly heavy, and much of the alfalfa hay is now being offered at lower prices than have prevailed heretofore.

This week's quotations are:

Choice wheat hay .....18.50@19.50
No. 1 wheat or wheat & oat 17.00@18.00
No. 2 wheat or wheat & oat 14.00@15.00
Choice tame oat .....16.00@17.00
Other tame oats .....14.00@15.00
New crop wild .....11.00@15.00
Stock hay .....8.00@9.00
Alfalfa .....10.00@13.50
Straw .....55@65

### Grain.

Wheat No. 1 .....1.67½@1.72½
Barley .....1.30@1.40
Oats white .....1.60@1.65
Oats gray .....1.60@1.65
Rye new crop .....1.70@1.75
Corn Egyptain .....1.60@1.65
Cal sm round .....1.70@1.75
Alfalfa seed, Cal. 16@18
Mustard brown .....3¾@4½
Millet .....2½@3
Flaxseed .....4
Broom corn seed per ton .....28.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton ....38.00@39.00
Cracked corn per ton .....39.00@40.00
Rolled barley per ton .....29.00@30.00
Rolled oats per ton .....38.00@41.00
Oil cake per ton .....38.50@40.00
Cocoanut cake per ton .....25.00
Middlings .....36.00@37.50
Mixed feed per ton .....28.00@32.00
Shorts .....31.50

## Citrus Market

LOS ANGELES, Oct. 6, 1909.

There is but little interest in the orange market owing to the light shipments and to the fact that the season is so nearly ended. The few shipments now going forward are being received with rather better grace than for some time. Actual returns are but little if any greater, but the market is cleaned up quicker and is gencrally in more satisfactory condition. Daily shipments now run from twenty to thirty cars.

Lemon shipments are extremely light, some days only three to five cars going forward. Prices, on the other hand are most satisfactory and every offering is promptly picked up at full quotations.

**SHIPMENTS.**

Total shipments of citrus fruits since November 1, 1908, are 37,328 cars of which 31,289 cars were oranges and 6,039 lemons. To same date last season there were 29,022 cars, of which 24,371 were oranges and 4,651 lemons.

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NEW YORK CITY, Oct. 4.—Fifteen cars oranges sold. Market very steady. Weather cloudy, cool and threatening.

VALENCIAS—
Swastika, L. V. W. Brown .....$2.60
Albion, T. Strain, Fullerton .....2.85
Caledonia, T. Strain.....3.00
Cal Sunshine, Og. Grs. C. Assn....2.60
Colonel, O. G. Cash Assn.....1.90
Blue Mtn. Pinkham McKevitt.....1.90
Carmencita, S. T. Ex. Fullerton...3.15
Violet, D. M. Ex., Duarte.....2.75
Sweetheart, A. F., Highgrove.....2.85
Eagle, A. F. Highgrove.....1.90
Dan Patch, A. F., Highgrove .....2.10
Searchlight, S. S., Orange .....2.25
Pointer, A. C. G., Glendora.....2.40
Hunter, A. C. G., Glendora.....1.85
Titus Ranch, San Marino G. P. A...2.50
El Treador, San Marino G. P. A....1.85
Old Mission, C. C. Chapman.....4.85
Golden Eagle, C. C. Chapman.....2.90
San Rafael, H. W. Bailey.....2.80
San Pasqual, H. W. Bailey.....2.15
Rialto Girl, Growers' Fruit Co....2.50
Orchard, Nat. Og. Co.....3.30
Standard, Nat. Og. Co.....2.45
Mocker, Spence Fruit Co.....2.50
Wreath, Spence Fruit Co.....1.85
GRAPEFRUIT—
Cerrito, halves .....1.55
Signet.....3.10
Colonel .....1.90
Sweetheart, halves .....75
Dan Patch, halves.....35
Slover Mountain .....1.50
Orchard, halves .....1.00

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CINCINNATI, Oct. 4.—One carload Valencias sold. Market firm on good stock.

VALENCIAS—
Greyhound, S. S. Fruit Ex.....2.55

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ST. LOUIS, Oct. 4.—Weather favorable. Market firm on good stock. One carload sold.

VALENCIAS—
Tiger, S. B., Colton .....2.65
Floral, S. B., Colton.....2.20

---

PHILADELPHIA, Oct. 4.—Three carloads Valencias sold.

VALENCIAS—
A1, E. Peycke Co.....3.10
Dixie, Cal. Cit. Union.....2.40
Bunker Hill, Cal. Cit. Union.....1.60
Deal, E. Peycke .....2.50
Dixie, C. C. V. .....2.35

---

CLEVELAND, Oct. 4.—One carload Valencias and one carload lemons sold. Market is lower. Price low on account of the quality and condition of fruit.

VALENCIAS—
Orchid, Altland Frt. Co.....2.80
Cambria, T. Strain .....2.00

LEMONS—
Corona Beauty Q. C. Ex. Corona..2.35
Grove, Q. C. Ex., Corona.....1.60

---

BOSTON, Oct. 4.—Eight carloads sold. Weather cool and cloudy. Market firm on good stock.

VALENCIAS—
Pointer, A. C. G., Glendora.....2.85

# Scalefoe

Greatest Known Spray or Wash for Scale: San Jose, Black, Red, Purple and Brown. Also a sure thing for Red Spider, Canker Worm, Moss, Caterpillars, Lice, Codling Moth, and all Insects and Bugs that infest plant life; without injury to the plants, and with positive benefit to the soil, when applied.

This has long been the leading Spray or Wash in many sections of the country, wherever introduced. We have bought the formula and the rights for this section and are putting it out under our own brand. No article can bear the "West Coast" name unless it is the best of its kind. We guarantee Scalefoe to be just as represented. Send for circular with many testimonials.

Gallon can, 85 cents; 5 gallon can, $3.75. If not sold by your dealer will send gallon can for $1 or 5 gallon can for $4, freight prepaid by us within 200 miles. Write for price in barrels. Mix 20 parts water to 1 part Scalefoe, before using; makes it the cheapest as well as the best. Satisfaction or money back.

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| | |
|---|---|
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| Highgrove, Riv. Ex., Highgrove | 1.95 |
| Mocker, Spence Frt. Co. | 2.75 |
| Pickaninny, Pioneer Frt. Co. | 1.80 |
| Standard, Nat. Orange Co. | 1.45 |
| Hunter, A. C. G. Ex., Glendora | 1.90 |
| Sugarloaf, Riv. Ex., Highgrove | 3.05 |
| Majestic, C. S. Spencer Orange | 2.90 |
| Wreath, Spence Fruit Co | 2.05 |
| Slover Mtn., Grs. fruit Co. | 1.55 |
| GRAPEFRUIT— | |
| Champion Seedless, A. C. Denman & Son | 2.35 |
| Champion | 1.85 |

PITTSBURG, Oct. 4.—Market easier on small sized oranges and steady on lemons. Weather cool. Five carloads sold.

| | |
|---|---|
| VALENCIAS— | |
| Blue C. Covina Ex., Covina | 2.60 |
| Planet, S. S. Ex., Orange | 2.40 |
| Sunset, S. S. Exchange., Orange | 2.00 |
| Wreath, Spence Fruit Co. | 1.70 |
| Stock Label | 1.65 |
| Cougar, Covina Ex., Covina | 2.20 |
| Scarchlight, S. S. Ex., Orange | 2.35 |
| Mocker, Spence Fruit Co | 2.35 |
| Tower, Malone Fruit Co | 2.60 |
| LEMONS— | |
| Aster, Cit. Fruit Union | 2.75 |
| Good Enough | 2.70 |

NEW YORK, Oct. 5.—Eight cars oranges and one car lemons sold. Market is very steady, with an upward tendency. Weather clear and cool.

| | |
|---|---|
| VALENCIAS— | Avge. |
| A One, E. Peycke Co | $2.55 |
| Climax, E. Peycke Co. | 2.00 |
| San Rafael, H. W. Bailey | 3.00 |
| San Pasqual, H. W. Bailey | 2.30 |
| Old Mission, Champan | 5.10 |
| Golden Eagle, Chapman | 2.90 |
| Halo, Cal Citrus Union | 2.85 |
| Dixie, Cal. Citrus Union | 1.85 |
| Carmencita, S. T. Exchange | 3.30 |
| Colombo, S. T. Exchange | 2.75 |
| Pointer, A. C. G., Exchange | 2.75 |
| Hunter, A. C. G., Exchange | 1.85 |
| Victoria, A. H. Exchange | 2.95 |
| Robusta, A. H., Exchange | 2.55 |
| Hobo, A. H. Exchange | 1.65 |
| Orchard, National Orange Co. | 3.50 |
| Standard, National O. Co. | 2.55 |
| LEMONS—Selected, $4.40 | |
| GRAPEFRUIT—Halves, Orchard 95c | |

BOSTON, Oct. 5.—Two cars sold.

| | |
|---|---|
| VALENCIAS— | Avge. |
| Ibex, S. T. Exchange, Rivera | $2.95 |
| Squirrel, A. H., Arlington | 2.60 |
| Rivera, S. T. Exchange Rivera | 2.45 |

ST. LOUIS, Oct. 5.—Weather favorable. Market weak on Valencias, higher on lemons. Two cars sold.

| | |
|---|---|
| LEMONS— | Avge. |
| As You Like It, L G F G A | $3.30 |
| Growers, L G. F. G. A. | 1.95 |
| Dolores, L. G. F. G. A. | 2..80 |
| VALENCIAS— | |
| Greyhound, S. A. Exchange | 2.50 |

### HORSE CLIPPING TIME IS HERE.

The season for clipping horses is again in full swing and everything points to the fact that this practice is growing more common every season. It is unquestionably a good plan as the clipped horse not only makes a better appearance but can be cleaned in a small fraction of the time that it takes to clean the unclipped horse. Furthermore, the best horse authorities agree that it improves the health of a horse. The clipped animal dries out much quicker than the unclipped horse and gets better rest and naturally is in better condition to do its work well.

Good machines for clipping horses can be had at very reasonable figures so that even a man who owns but a few horses may clip them without any great expense or inconvenience.

# Legal Queries

Edw. L. Payne, attorney, 301-304 Douglas Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Payne is paid. When replies are wished in Cultivator address query to 115½ No. Broadway, Los Angeles.

### Ditch Right.

A. sold half of his ranch to B. with water stock. After B. had irrigated three years through ditch that crossed A's place, A. ploughed up the ditch. B. has no other ditch by which to irrigate. What can B. do? The deed does not mention any ditch right. Can B. sue for damages. Can he make A. give right of way, or does A. have to sell him right of way?—Subscriber.

In all probability, B. has a right of action against A. to compel A. to permit B. to use the ditch mentioned, or to use a portion of A's place for conveying the water across it, if there is no other way by which B. can get water upon his place.

The question as to whether or not a private individual may compel another individual to give a right of way for water either by condemnation or otherwise, is very much unsettled, and probably there are very few cases in which the Courts would permit a private individual to acquire such a right of way by arbitrary methods. The facts suggested by the above inquiry indicate a case that should appeal for relief very strongly to a court. Perhaps B. could maintain an injunction against A, restraining A. from interfering with B's use of a right of way across A's place, basing the suit upon an easement belonging to B. by virtue of the fact that B's place is in law, a dominant tenement, while A's is a servient tenement, A's place having become burdened with the easement by virtue of the facts which probably exist as follows:

A. and B. dealt with reference to B's place, knowing that B. would acquire the water right in question, and would have no means of using the same except that access could be had through A's place; B. purchased, relying upon the physical conditions as they existed, to-wit, the use of A's place for conveying the water to B's place; and the knowledge that water had been so conveyed for a greater or less length of time, and the expectation that the place purchased would continue to be rendered fruitful by the use of the water.

The indications are that the case is a very interesting one and should be won by B.—E. L. P.

### POULTRY QUERIES.

(Continued from Page 351.)

ously affect the health of the chick, many will stop up the passages and cause all sorts of trouble, and finally death.

It's discouraging enough work trying to fatten a restless chick without at the same time banqueting a host of intestinal worms. Remember when "Josiah Allen" took summer boarders and the lady had a tape-worm and he wanted to charge extra for it? Said he "didn't agree to board no tapeworms, it wasn't in the bill at all." And we can't blame him. Now to get rid of them, dissolve in the water used in mixing the mash, two grains of santonin for every adult bird and one for every chick (half grown) to be treated. Mix a small amount of mash with this, quite dry and add one-half teaspoon of castor oil for each bird. Collect all droppings after this treatment and burn or bury deeply. This is a good old remedy, but if you do not believe in drugging chickens, mix a teaspoonful of sulphur to each bird in a mash with milk, and I think the worms will "vamoose." You know sulphur is considered almost a standard home remedy in some families, and a little mixed in the feed occasionally in dry weather is good for the general health of fowls anyway.


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***Pacific Pipe Company***

***S. W. Corner Howard and Main Streets, San Francisco, California***

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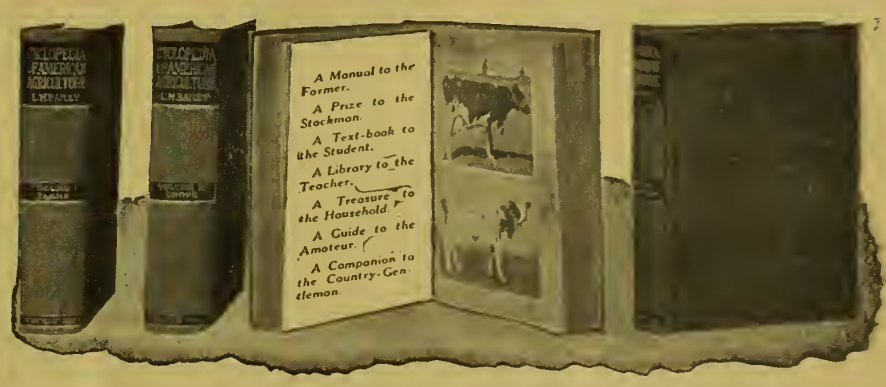
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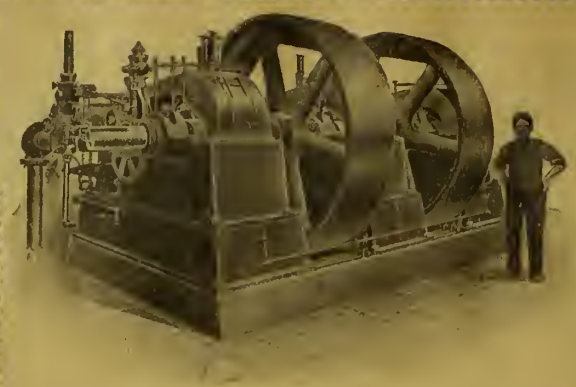
says one of our customers, writing regarding his WESTERN engine. Extract from his letter is given below:

"It pleases me greatly to be able to say that the engine recently purchased of you has more than met our highest expectations. Of its kind, it is my belief that it is **Without a Peer** in all the West.

In the purchase of the engine I carefully looked over the market, had seen every high powered combustion in the State, had given every argument due weight, had fully considered costs of other powers—both as to first cost and cost of operation—and now after a good test stand ready to say that I do not think we have made a mistake in securing your engine."

The engine referred to is of the size and type shown in cut, and is used for pumping water near San Francisco, Cal.



250 H. P. Western Engine

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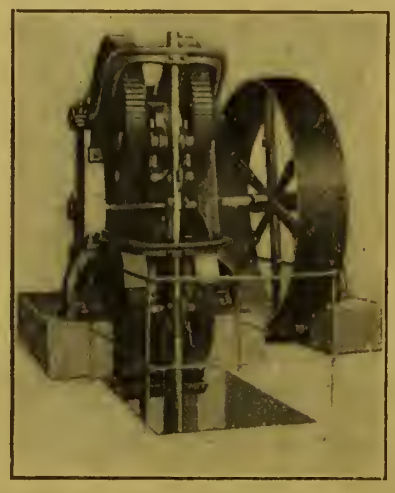
Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.



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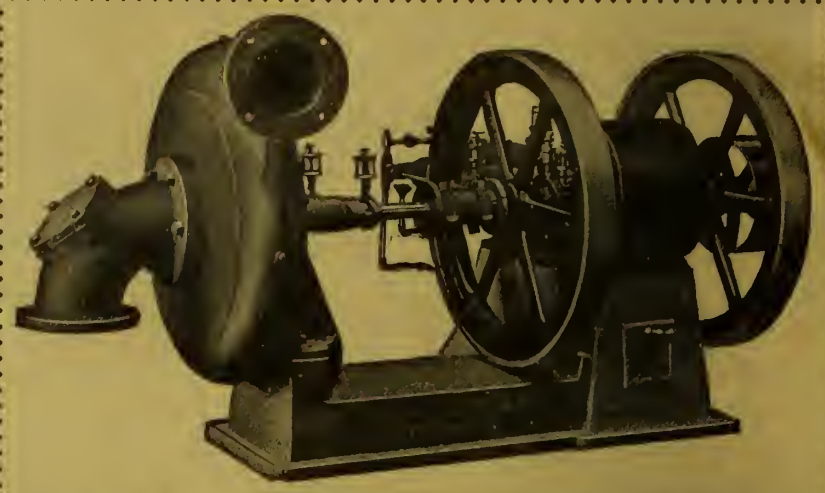

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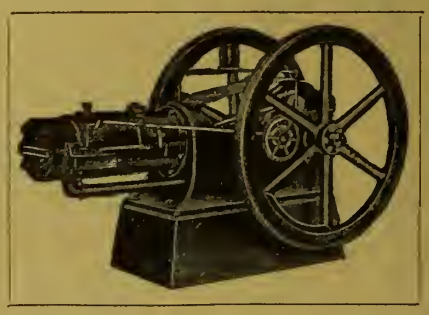

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# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

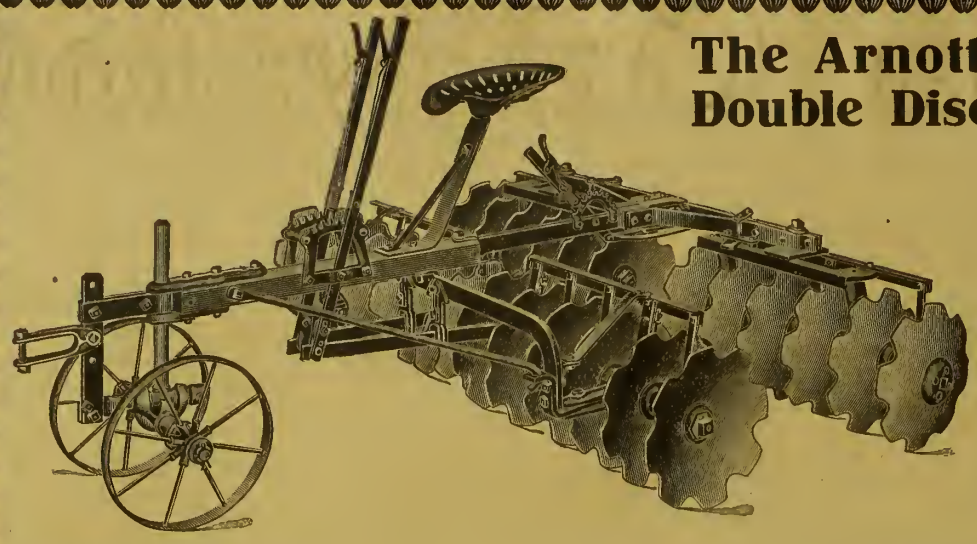
Los Angeles October 14, 1909 San Francisco


## Arizona Orange Groves Produce Early Fruit

Orange Grove in Salt River Valley Irrigated by the Basin System.

NOTWITHSTANDING such trying climatic conditions, orange trees have been grown for nearly twenty years at Phoenix and Yuma, Arizona, and for a much longer period at Hermosillo, Sonora. As the country becomes more thickly populated and new railroads open up additional acreage, citrus growing is being gradually extended to many other localities. All through the mountains of southern Arizona there are comparatively frostless coves and foothills which may be made to produce an abundance of high quality oranges and pomelos for home consumption. In each case, however, the very important problems of water supply and transportation will have to be solved before these pioneer plantings may be enlarged into commercial groves. Examples of a few such places are Agua Caliente, seventeen miles east of Tucson; Agua Caliente, northwest of Gila Bend, and areas near Parker and Fort Mojave. Extending for considerable distances south of Parker, on both sides of the Colorado River, there are bench lands suitable for citrus culture. In general, the limits of such citrus areas may be determined by the following factors: Elevations not exceeding 2,500 feet; winter temperatures not below twenty and rarely below twenty-four degrees F., and a reliable supply of irrigation water.

The incentive to grow oranges in the arid Southwest, where climatic conditions are trying to the growth of the trees, is the high price received for the fruit. Fruit from this region is in considerable demand in the Northern markets, chiefly on account of its remarkable earliness. The oranges are also sweeter and are much deeper colored than those grown in humid and less sunny regions.



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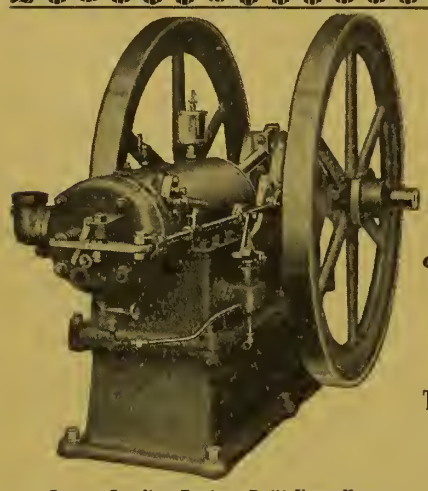

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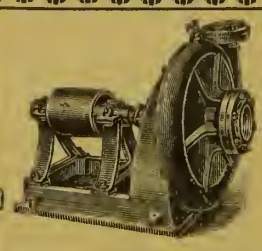

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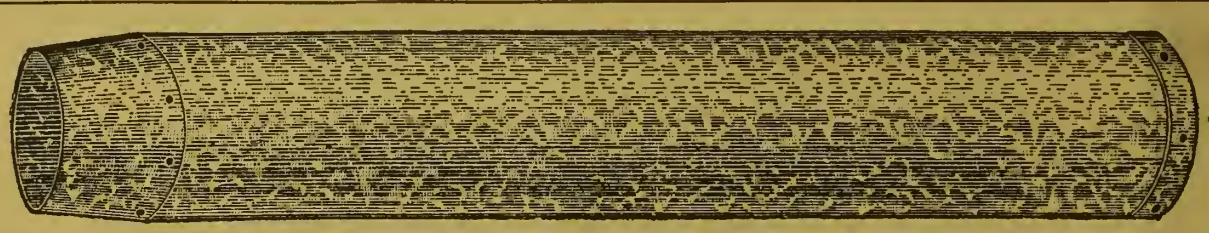

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At my home, one-fourth mile East of Pacific Electric Depot, at
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He is undoubtediy one of the best all purpose stallions in the State. heavy enough for any use, can step in three minutes. Was purchased for $3,500 and will produce the best money making horses in the country.

DESCRIPTION: Dark bay; star, snip, both hind feet white, 16¼ hands high, weighs 1500 lbs. Foaled May 12, 1902. Bred by M. Jacques Navet, Department of La Manche; sired by the Government Stallion Norodum.

Dam, Sympathie by Jolibois; 2nd dam, Negress by Colporture, with continued pedigree back to the year 1734—all bays or browns. While CONDE is undoubtediy one of the finest bred French Coach Stallions in the State, he is also a fine individual and gets fine colts. He has perfect color, size, shape, action and speed. He can be seen any time at above place, where he will be sold at auction.

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At 10 Oclock A.M.

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Purchasers looking for good dairy stock should not miss this sale.. Owner is retiring from the dairy business, closing out his entire herd and every animal must and will be sold to the highest bidders. Positively no Limit or Reserve.

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Free Lunch at noon.

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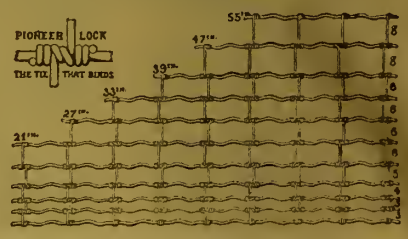


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# California Cultivator

Vol. XXXIII—No. 16 Los Angeles, California, Thursday, October 14, 1909 Subscription $1 a Year

# Can the Smyrna Fig be Pollenized Naturally?

## The Blastophaga is Usually Distributed by Hand. Will it be Profitable to Let it Distribute Itself by Grafting Part of Smyrna to Caprifig? Answered by G. C Roeding and G. P. Rixford

THE CULTIVATOR recently received inquiry as to success in fertilizing Smyrna figs with the little fig wasp, blastophaga grossorum. The Cultivator took steps to gather together as much information as possible as to work done by the wasp, and as to whether it is more beneficial to have the caprifig grafted into a branch of the Smyrna tree so that the insect could pass from the caprifig into the edible fig and so do away with the labor of transferring by hand.

We first wrote to Mr. G. P. Rixford, who many

Cross Section of Caprifig Showing Fig Wasp.

years ago was connected with the San Francisco Bulletin, and was instrumental in introducing the first cuttings of the true Smyrna fig of commerce. Mr. Rixford is now connected with the Bureau of Plant Industry of the Department of Agriculture and has had to do with the large Maslin orchards near Sacramento, from which many cuttings have been distributed to all parts of the state, as also have many of the fig wasps. Regarding the advisability of grafting, Mr. Rixford writes:

**Some Phases of the Smyrna Fig Industry.**

The time for grafting fig trees is the same as for other fruit trees, namely in spring when the sap in the tree to be operated upon is active and the buds are pushing. The scions, however, should be dormant and should have been taken in winter. The fig tree is not difficult to graft.

The practice is universal in the Smyrna fig district of Asia Minor to gather the caprifigs at the proper time and hang them in the branches of the Smyrna trees, and this practice is followed in California. The reason for this method is the belief that over pollination causes the Smyrna figs to split in ripening. To prevent this the capri trees are planted by themselves and the figs are hung in the Smyrna trees in numbers proportionate to the size of the tree. This practice does not entirely, if at all, prevent splitting either in California or Asia Minor. The writer has given some attention to this feature of fig production and has observed facts that raise a doubt in his mind as to the accuracy of this idea. In some instances noted it looks as though the conditions of moisture in the soil have more to do with the splitting than over pollination. It is well known that wet ground and late irrigation are prolific causes of this trouble. Instances have been noted where the proximity of the capri trees and consequent excessive pollination had very little to do with it and it appeared to be the fault of the variety. Some trees have been noticed as splitting a large portion of their fruit every year, while in the same orchard another variety of Smyrna, equally exposed to swarms of blasophaga, is entirely free from the defect. This question is being studied by men connected with the Bureau of Plant Industry of the U. S. Department of Agriculture, and it is hoped that before long definite conclusions may be reached.

It is not necessary that more than one or two wasps should enter each Smyrna fig to produce

White Adriatic Grafted with Smyrna Fig Scions.

perfect fertilization, and as small caprifigs contain 200 or 300 wasps and large ones up to 1000, not many are required on each tree. Ten or twelve caprifigs on a five year old tree and twenty-five or thirty on a ten year old tree, are found sufficient at one application.

There is another reason for planting the capri trees away from the Smyrna orchard. We thin apricots, peaches and other fruits to increase the size. The crop of figs on a Smyrna tree can be regulated to a considerable extent by the number of caprifigs applied. Large figs as well as large apricots and peaches are desirable and the size depends much on the number the tree produces. Hence one application of caprifigs will produce a smaller crop than several applications.

All experienced Smyrna fig growers know that the crop is in direct proportion to the number of blastophaga liberated in the tree and three or four applications of caprifigs several days apart produce the largest yield, though not always the largest figs. The reason for this is that when the caprifigs are first applied a certain number of smyrna figs are in a receptive condition. In a few days other figs have grown to a receptive size, but the wasps have all issued from the first caprifigs applied, hence the necessity of other applications.

**From Mr. Roeding.**

Mr. Roeding of Fresno, who is doubtless responsible more than any other for the successful planting of colonies of the blastophaga and whose continued and earnest work in placing the fig industry on a solid basis is worthy of all commendation, writes regarding the distribution:

The expense of distributing the caprifigs is only a small item. Where a person only has one tree, however, of the Smyrna fig and has not sufficient room for another tree, it is entirely practicable to graft a couple of the branches of the Smyrna fig to two varieties of caprifigs. I would recommend No. 1 and No. 3 for this purpose, as they develop all the crops of capri figs so that there would be no question about their retaining the insect throughout the entire season. If the tree is an old one, it would be necessary in addition to cutting the two branches which are to be grafted, to shorten in some other branches immediately surrounding the grafts in order to give them a chance to develop. If this method was not followed, the grafts would be overshadowed to such an extent they would not grow.

In explanation of the process of grafting, Mr. Roeding has sent the engraving given on this page, which show more perhaps than could be given in words. The method so shown has been

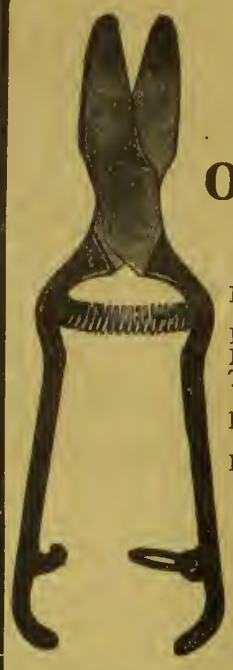
Fig Grafting. Preparation of Stock and Scion.

adopted as the best after trying many others. The cleft graft Mr. Roeding says, in a circular touching upon grafting, is objectionable. From this circular we quote below explicit directions.

**To Graft.**

In grafting over orchard trees the branches to be grafted should be cut off to within 18 to 24

(Continued on Page 372.)



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# Citrus and Sub-Tropical Fruits

## PHYSICAL CHARACTERISTICS OF THE DIFFERENT TYPES OF LEMONS.

LEMONS are known to be a most variable fruit in their physical characteristics. Not only is this true of trees of any given variety, but in some cases it is also true of the different fruits taken from the individual tree. The manner of handling water and fertilizers is commonly believed to be of great importance in getting smooth, well-shaped lemons. The lemon varies in general from a barrel shape to an almost spherical form marked by more or less pronounced protuberant ends. Thick and conspicuous ends detract from the value of the fruit. The best size of lemon weighs on the average 120 to 135 grams. Of course size is not the only factor which determines the weight, much depending on the rind, quantity of juice, and general solidity of the fruit. The most desirable sizes of lemons average 300 and 360 to the box.

There are usually three grades of lemons, known as "fancy," "choice," and "standard." The grades depend on the general texture of the fruit, the form, and the color. The sizes vary from 180 to 540 to the box, but few lemons are packed larger than the 240 or smaller than the 490 per box size. The better grades are mostly made up of the fruit of fine texture and of good form picked when green and colored either by slow curing in tents or by sweating. The tree-ripe fruit is less commonly used for the finer select grades, since many question its keeping quality. In some packing houses it goes largely into an inferior grade, and at some seasons of the year when the fruit is quite small from 400 to 500 are packed in a box. A very small percentage of fruit constitutes the grade known as "sinkers," or "heavy lemons." This type derives its name from the fact that the fruits sink in water when being washed. They are usually spherical in shape and quite small, with extremely thin rinds and a relatively large amount of juice.

The green fruit after it is properly cured, either by sweating or by the slower tent process, possesses a rich lemon-yellow color which is seldom in the tree-ripe fruit.

There is a wide variation in the texture of lemons, which is currently believed to be influenced by orchard conditions and the season of the year. As a rule, large, overgrown fruit has a rougher texture than smaller fruit. During the curing process the rind is smoothed down considerably and the texture is improved. Tree-ripe lemons usually have a smoother texture than the green fruit.

The rind consists of the external epidermis and a well-developed underlying layer of soft, spongy, white tissue. This layer of tissue contains a considerable quantity of water, much of which evaporates during the curing of the fruit, causing a considerable shrinkage in the thickness of the rind. It is for this reason that the spongy layer of green, freshly picked fruit is, as a rule, thicker than that of the tent-cured lemons. Individual lemons display great variations in the thickness of their rind, a condition which it is difficult to recognize from the general external appearance of the fruit. It appears that good, sound, normal-sized fruit, with smooth or medium texture, as a rule, has a thinner rind than the rough and oversized sorts. The rind of green fruit varies from one-eighth to five-sixteenths of an inch in thickness and averages about one-fourth of an inch. As stated previously, the tent-cured and sweated fruit averages somewhat less, while the "tree-ripes" usually run from one-eighth to three-sixteenths, and "sinkers" vary from about one-sixteenth to one-eighth of an inch, due to the extreme reduction of the spongy layer.

The seed content of the California lemons is very small, indeed. A large majority of the fruit is entirely free from seeds. Now and then one finds a lemon that contains as many as a dozen seeds, sometimes all developed, but more often only partially so. They occur in all grades and varieties of fruit, but it appears that they are found more frequently in lemons of low grade. It is said by some growers that orchard conditions as regards the soil and method of cultivation, as well as the general condition of the trees, have an important bearing on the presence of seeds. It has been noticed that the fruit from some localities displays a greater tendency toward seed production than that from others.

The juice constitutes from 30 to 55 per cent of the total weight of the lemon, varying to a considerable extent with the thickness of the rind and the general solidity of the fruit. In the "tree-ripes," "sinkers," and cured fruit the percentage is higher than in the green, newly picked lemons, for the reason that the latter have more water in their rinds. The juice obtained by expression contains a considerable quantity of mucilaginous material, which gives it a cloudy appearance. Great difficulty is found in removing this material; in fact, all methods of clarifying tested fail to make the juice perfectly clear.

Besides the citric acid, to which the sourness is chiefly due, tartaric and malic acids are present, but in such small quantities that they are probably negligible as to their effect both on the behavior of the fruit itself and on the acid determinations. The specific gravity of lemon juice shows a narrow range of variation. By far the majority of determinations give results approximating 1.035. Numerous samples have given results as low as 1.026 and still more as high as 1.04. It was expected that the specific gravity of the juice would be governed by the acidity, but this was borne out only in a partial way. It was found that either a decidedly high or a decidedly low percentage of acid is indicated by a correspondingly high or low specific gravity. This was especially true when the acid content was higher than usual. Small differences in acidity are not indicated by the specific gravity with any degree of certainty, the variations in the quantity of mucilaginous material perhaps hiding any change which might otherwise be indicated. Experience has shown that a difference of less than 1 per cent of acid can not be foretold by a specific gravity determination of the juice.—From Circular 26 U. S. Dept. Agr.

## PICKLING OLIVES.

From the Cultivator of Sept. 24 of last year we reprint the following information on olive pickling:

"The olives, either green or ripe, should be packed into pails about one-third full of water, to prevent bruising, and sorted as to size and ripeness. The fruit is then placed in suitable vessels (preferably stone jars, though wooden kegs, etc., may be used if sterilized so that they are free from mold spores), the water poured off, and the fruit covered with a solution made of 2 ounces of soda lye, 1 ounce of lime, and 1 ounce of common salt to a gallon of water. The solution should be thoroughly mixed and allowed to stand an hour before using, and is best if made of boiled and cooled water. It should stand about 2 inches above the fruit and if any of the olives float it is necessary to cover them with a board and weight.

The time of the lye treatment varies from three to seven days, according to the variety, size and ripeness of fruit. The solution should be examined daily, and should the sleek, soapy feeling peculiar to lye disappear, it indicates that the solution is exhausted. The old solution should therefore be poured off and new solution added. It should be changed at once should any scum or mold appear. The fruit should be frequently examined, always sampling the largest olives by cutting away a portion with a sharp knife. The progress of the lye toward the interior of the fruit is plainly marked by a distinct dark ring. When the ring has reached almost, but not quite to the pit, it is time to remove the lye and commence the washing.

The lye should now be poured off and water added and renewed morning and night. The wash water should also be boiled as a preventive of mold, which is very likely to develop at this stage of the pickling process. The fruit should be kept in water, as before, with the board and weight, and throughout the extraction, washing and salting, the vessel should be closely covered. It will require from four to seven days to remove all traces of the alkali. Washing should be continued as long as the fruit has the peculiar hot taste due to the presence of lye, and it is well to test it with red litmus paper, which will turn blue if a trace of the lye remains. If the olives are still bitter after the washing has been completed, they should receive a second treatment with lye, followed by washing.

When free from lye, the olives are ready for salting, the brine being composed of 2 ounces of common salt to a gallon of water. It should be thoroughly boiled, cooled and poured over the olives. The next day this solution should be poured off and a solution containing 4 ounces of salt should be used. "If the stronger solution is used to begin with, the olives will shrivel. The fruit should next be treated with an 8-ounce brine, and if intended to keep for some time, finally with a brine containing 14 ounces to the gallon. A 14-ounce brine, however, makes the olives too salty to be used without a slight soaking."

---

The Fourth Carnival of Products held at Santa Ana, Orange county, last week was a complete success. This carnival is proving almost equal to a county fair as a means of bringing together a high grade of fruits and agricultural products.

"Bob—Did you hear about Jim Kline?

"Well, Jim's nephew came out from Chicago this summer to 'rusticate', as he called it, and he asked his Uncle Jim if there were many mosquitoes around here.

"'Well, no,' says Jim real thoughtfully, 'Not if you come at the right time of year.'

"And that roof I used to have on the corn-crib there was pretty much like that—It never leaked if you happened under it at the *right time*.

"But if you didn't want to get your new Sunday suit wet, it wouldn't have paid to hunt for shelter under that roof when it was raining.

"Well, I knew it leaked—but it didn't make much difference in the summer when the crib was empty. I was always too busy in the fall and spring to attend to it, and in the winter when the crib was full was a poor time to put on a new roof. So I was fool enough to let it go a little too long.

"That roof kept getting worse and worse, and first thing I knew I had a lot of spoiled and mildewed corn there on the East half of the crib where the roof was worst. Guess I lost about three hundred bushel that way; rotted so it wasn't even fit to feed the pigs.

"So I come to then—that taught me a lesson. I lost a whole lot more than the cost of a good roof.

"But I've learned by experience—cost me a good deal, too—and by reading the papers—and by keeping an eye on the different kinds of roofing tried around here.

"And you see I've got Rex Flintkote Roofing on that crib now—

"So I know this year's crop of corn will keep sound and dry. I stopped right in the middle of my fall-plowing to put that roof on, too—decided that it was just as important to *keep* a crop as it was to raise it.

"You see I've got Rex Flintkote Roofing on my barn, too—built the barn after I did the crib. Wasn't satisfied with the crib-roof—didn't want shingles—so I made up my mind to make sure of a good roof. It pays, you know—look at all the stuff you've got in a barn—hay and all that—all easily spoiled under a leaky roof. Horses hard to keep in good condition, too, unless they're under a warm and dry roof.

"I looked through the farm papers. Came across a Rex Flintkote Roofing ad.—looked good to me—sent for free sample—tried it with live coals of fire—proved it wouldn't catch—tried it every which way. That looked to me like mighty fair-and-square proof that Rex Flintkote Roofing would stand the racket better than anything else I could get. So I put it on.

"Another thing—you've generally got to hire a carpenter to put on shingles—and an expert to lay tin or tar-and-gravel—

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"It's made of a long-fibre felt—and thoroughly saturated with some kind of indestructible mineral waterproofing compound. Every little pore is filled up tight with this compound—so neither the hot sun or the rain or snow, or anything at all, can get at it. You know these things soon eat the life out of other roofing materials.

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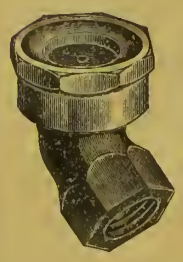

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# Deciduous Fruit Culture

### FARMERS' WEEK PROGRAM.

THE program for Farmers' Week at the University Farm at Davis promises a feast for every one in this state who may be able to take advantage of the opportunity to be present the week beginning Monday, October 25th. The program continues until four o'clock Saturday afternoon. Reduced fare has been secured on the railroads and an effort will be made to accomodate all in the town of Davis.

An idea of the feast to be given for the week may be had from the following which is condensed from the program:

The first session opens at ten forty-five Monday morning, with an address by Prof. I. P. Roberts on Conservation of Our Greatest Resource, The Soil. Other features for Monday are: Cattle Flies in California, W. B. Herms; Judging Demonstration of Dairy Cattle, Prof. Major and F. D. Hawk; Forage Crops, Prof. Wickson; Agricultural Education, Leroy Anderson; The Dairy Industry in California, H. A. Hopper.

Tuesday, October 26th: The Farm Separator, H. A. Hopper; The Minus Quantity in California Soils, G. W. Shaw; Forage Crops, E. J. Wickson; Marketing Pure-bred Livestock, E. W. Major; Essentials of Success in Cereal Culture, G. W. Shaw; Annual Meeting University Farm Students Association; Judging of Beef Cattle, E. W. Major.

Wednesday October 27th: The Farmer and Quality in Butter, H. A. Hopper; California Horticulture, W. T. Clarke; Composition of Milk with Relation to Cheese Making, L. M. Davis; Forage Crops, E. J. Wickson; Some Results of Work at the Petaluma Poultry Station, M. E. Jaffa; Draft Horses, Howard Phillips; Control of Grasshoppers, C. W. Woodworth; Administration of Pure Food Laws, M. E. Jaffa; General Conference on Rural Life, Addresses by Mrs. M. E. Sherman, Fresno, Mrs. Geo. W. Pierce, Davis, Leroy Anderson and others.

Thursday, October 28th: The Farmer's Interest in Cream Sampling and Testing, H. A. Hopper; Value of Keeping Pure-bred Dairy Cattle; F. D. Hawk; Diseases of Stone Fruits, their Nature and Control, R. E. Smith; Forage Crops, E. J. Wickson; Fertility of the Land, I. P. Roberts; Some of the Causes of the Present Depression in Grape Growing, F. T. Bioletti; Farmers Institute Conference Address by J. B. Neff, Anaheim; Judging Sheep, E. W. Major and H. Phillips; Addresses by W. R. McIntosh, Fresno, and Mrs. M. E. Sherman, Fresno.

Friday, October 29th: Methods of Disposing of Milk, H. A. Hopper; Bovine Tuberculosis, A. R. Ward; Diseases of Pear and Apple, their Nature and Control, R. E. Smith; Forage Crops, E. J. Wickson; Some Needed Improvements in Grape Growing, F. T. Bioletti; Luther Burbank and His Work, E. J. Wickson; National Livestock Interests, Hon. H. A. Jastro; Marketing Organizations, Hon. J. W. Jeffrey; Judging Horses, E. W. Major and Howard Phillips; Reception.

Saturday, October 30th: Insecticides, C. W. Woodworth; Directors Meeting, Sacramento Valley Development Association; Judging Swine, E. W. Major and F. D. Hawk; Regular Monthly Meeting Sacramento Valley Development Association; Good Roads in California.

### LIPPIA SUBDUES MORNING GLORY

THERE are many receipts going the rounds for the eradication of morning glory, the most satisfactory one being the conversion of the infested lot into a hog pasture. This is satisfactory in the case of vacant land, or high pruned orchards, but impracticable in the case of a vineyard.

We had occasion during last spring and the current summer to make observations on the workings of a new enemy of morning glory. The tract of land lying south of Marysville on the east bank of the Feather river, comprising some 22,000 acres and belonging to the Farm Lands Investment Co,, contains about 3000 acres of rich bottom laud. All of this and several thousand acres of the upland has morning glory scattered over it. During the last few years, Lippia repens has covered a large portion of this vast ranch, thousands of acres now being a Lippia lawn. In an experimental garden of ten acres that we selected because it was comparatively free from morning glory, we found that the morning glory increased after the Lippia sod was turned under. Two cultivations killed all the Lippia, but the morning glory is still with us. Outside of the cultivated portion, there is a thick, heavy sod of Lippia, but no morning glory is visible.

This land was farmed to corn last season and the Lippia was all killed, but morning glory was well established over most of the area. Early in the spring Lippia seed scattered by the winter floods began to show up and at this time has taken possession to the exclusion of the morning glory. Patches where the latter was in bloom are now solid with Lippia with the enemy vanquished.

Just how long it will take to kill it in this way, if it will at all, remains to be seen. In the meantime


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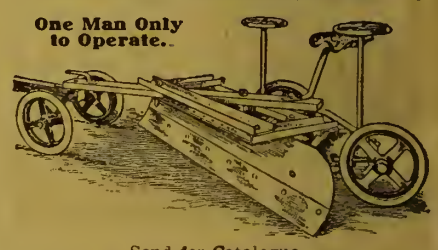

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**W. W. BLISS,** Duarte, South Cal.


The red apple land section near Wenatchee, Washington, will supply several cars of exhibits for the national apple show at Spokane.

the Lippia is making the bee men happy, for it is a great honey producer. I never saw bees as numerous on white sage in Southern California as I have on this Lippia.

It is my opinion that where irrigation is possible that orchards and vineyard can be freed from morning glory by allowing the Lippia to form a sod while irrigation keeps up the required moisture for the trees.—J. W. Mills.

### PEAR THRIPS.

Bulletin No. 80, Part IV of the Bureau of Entomology, touching upon pear thrips and its control, by Dudley Moulton, is an excellent account of investigations of this remarkable pest. Mr. Moulton describes attempts at control by cultivation, plowing and handling of the soil, and also by spraying. The tone of the report is most hopeful and shows that the pest may be subdued in a large measure. The summary in which the more extended information of the bulletin is condensed, is as follows:

**Summary.**

The pear thrips has been found only in localities in the general region of San Francisco Bay. Its presence in other countries is not known.

The adults accomplish their feeding injury by rasping the tissues and sucking out the plant juices in the early buds and blossoms. Larvae feed more especially on the larger leaves and on fruits. Adults cause the scabbing on pears, while larvae produce the scabbing on prunes.

Adults emerge from the ground in late February and early March, just when most trees are spreading their buds and opening into bloom. Eggs are placed mostly in the blossom and fruit stems and in leaf petioles. The larvae hatching therefrom feed for two or three weeks, then drop to the ground, where they form a tiny protecting cell within which they remain during the rest of the year. The pupal changes take place within this cell in the ground during October, November, and December.

To gain complete control of the pear thrips, both plowing and spraying should be adopted as remedial. Land should be plowed as soon as possible after the early rains in October, November, and December, to a depth of from 7 to 10 inches, harrowed or disked, and then cross plowed, the second plowing to be followed also by harrowing. The pupae are by this means broken from their protecting cells and most of them either injured or killed.

A combination spray of black-leaf tobacco extract in the proportion of 1 part of extract to 60 parts of water and 2 per cent distillate oil emulsion or a spray of black-leaf extract alone, should be used against the adults during early March, just when the cluster buds begin to open, and against the larvae in April, after the blossom petals fall. The thrips must be killed by contact insecticides, and not by internal poisons.

Fertilizers and irrigation do not kill the thrips in the ground. They act against them only indirectly, by placing the soil in better condition for cultivation and by strengthening the trees.

### MAYETTES AND CONCORDS.

The Cultivator unintentionally gave a wrong impression in the headlines of its leading article last week, which read, "Promising Strains of Mayettes and Franquettes." The article did not touch upon Franquettes other than to refer to them, and the two varieties which Mr. Coates recommended were the San Jose Mayette and the Concord. Both of these nuts have been tested, as was stated in Mr. Coates' article, in various sections of the north and found exceptionally well adapted, heavy bearers and practically immune to blight. In this they are not "promising" but have proven their worth.

Mr. Coates has introduced many varieties of fruits to California growers, which have proved their value by being stayers in the horticultural field. Some have places in the catalogues of practically every nurseryman of the state.


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costs a little more in the beginning than ordinary roofing because it is made of genuine Trinidad Lake asphalt; but that gives it life to resist sun, air, heat, cold, rain, and fire. You are sure Genasco will last—you know what it's made of; and you know it is cheapest in the end.

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¶Again the **stamp of official approval** has been placed on the cream separator which the dairyman has found to be **most profitable, easiest to run, easiest to clean,** and **handsomest in appearance.**

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¶If you want to see for yourself why the United States Separator was awarded the **Grand Prize,** go to our local agent nearest you. He will show you.

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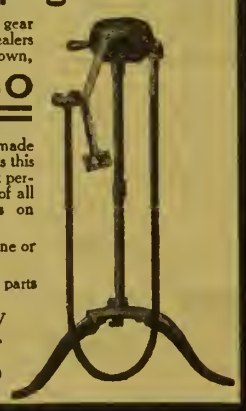

No machine ever made at any price equals this one. It is the most perfect in every way of all clipping machines on the market.

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# Live Stock and Dairy

Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

## THE WHOLE HERD.

By Mrs. M. E. Sherman.

THE small loss to the general farmer of keeping a poor cow, one that produces less than 3000 pounds of milk a year, is not noticed so quickly as in a dairy herd. The other products from the cow deceive many people as to the profits. The pigs a year like this when "pigs is pigs" add to the confusion of the mind. We have a goodly quantity of skim milk to feed and the other day some pigs dropped in March went to town on the small delivery wagon, and back came a check of $84.00. These pigs had cost little, as they had lived on alfalfa and skim milk until the last four weeks when sugared raisins, worth one cent a pound, had been added to their diet. Every year in the market there are dried fruit, figs and spoiled raisins that are good stock feed to finish off the pigs. Hogs I do not raise, but turn the swine off at six to eight months old. The Berkshires make good fat growth at that age and I find it best not to buy sows at all, but to secure every year a young male to add to the band. This new animal is carefully kept away from all the rest for six months and then I feel sure he is all right to let out for if he had any disease, it would have developed before that time.

### Diversity.

The small farmers flocking into the Fresno region are not looking for orchards or vinyards, but for small unimproved farms of forty acres. These men will have a few cows, a few pigs, and raise general crops, having a few acres of this and that, until the California spirit strikes them. We hope it may not do so, as the country needs farmers that will grow their own food and then the food for their cows and horses, and sell the surplus. The present system of having one crop, selling it and buying everything else is bad. When the crops are light or prices bad, the farmers suffer. During the present depression in raisin prices the banks are the only people that are thriving, though the people of the town of Fresno having in many cases struck oil in the last few years are not feeling the pinch as closely as the vineyardists.

### Whole Law.

First, the cow must be bred for production, then fed constantly so that she has enough to maintain her bodily fat at all times under the strain of milk producing. It will not do to think the cows can skimp along this month, and next month make it up by extra heavy feeding. When the hay is short, run the mower to cut the alfalfa even if it is not very tall. Hay can be bought to take the place of that cut to feed. If the cows are let drop in their milk the cost of carrying them the rest of the year will not be met. It cannot be too strongly stated that the instances are too rare to be considered in which the cows once allowed to drop down in the milk flow regain it before they become fresh again.

### Value of Silage.

The silo on a California farm is a great conserver of the steady milk flow. A silo stands always ready to take any green stuff that cannot be handled in any other way. At present the rain has caught the last crop of alfalfa and the mower is out cutting it for the silo. It will go on top of the sorghum, as the sorghum that was left over, topped out the corn. The cows will have to eat through a variety of feed before they reach the bottom. If we have a warm winter they will not reach the bottom before the first foxtail alfalfa is put in. Some years the silo is never emptied and we have to watch the chances of running out the feed to coat the inside with coal tar.

The silo harmonizes the work, as it is hard to stop the vineyard and orchard work to make up a little amount of hay and the labor of handling the first fifty tons of alfalfa amounts to nothing if turned into silage. The mowers run in the morning, and in the afternoon the same teams haul in to the cutter engine the cut alfalfa. The engine starts after dinner and by night time the morning cutting is in the silo. The men do not strike for extra pay as they do when the hay is made. One or two days puts the cutting into the silo and the teams go back to the plowing and cultivating. Along in mid-summer a spirit of weariness overtakes the cows. Silage then comes in to rally their appetites. They can eat it with little exertion of gathering and the milk is held up to the spring grass flow. The silo is a way of soiling cattle, at least expense and with the food always at its best. Tne fields are not tramped, but allowed to raise a normal crop to be put into the silos green or made into hay as best fits in with the other work in hand.

### Feeding.

A cow may be said to gather her feed like a woman going to market with a big basket. The cow swallows down the grass without chewing, only wadding it into a mass very like a quid of tobacco. These masses are packed away in the cow's first stomach and when the basket is full she lies down to chew her cud and the expressing of her countenance changes. While gathering the food she was sprightly and animated, moving around with energy, then as the cud is taken up an expression of peace and quiet comes over her face. She lies there full of enjoyment of the flavor of the food. The small boy often says apt things, and Leonard one day remarked that he wished when he had eaten his Christmas dinner that he was a cow, for then he could chew it all over again all afternoon.

When the cows have to walk over the field to secure a stomach full before going to ruminate, it may be good training for muscle, but milk is the cow product. There is no more peaceful and beautiful sight than a herd of

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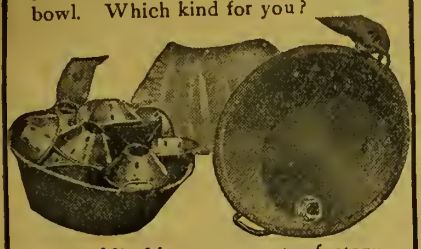

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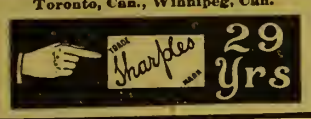



well fed cows lying in the shade in a green field chewing their cuds.

### Increasing Yields.

The usual way a dairyman increases the milk yield of his herd is by going out to buy more cows. If the money is put into pure bred cows he is gaining, but if he simply buys other people's misfits the gain is not there.

Weeding out the poor cows and feeding the food to the best ones will bring about an increased milk flow. Since I have been afraid to add cows to the herd on account of the prevalence of aborting and tuberculosis. I have found it less expensive to increase feed than to increase the herd. Also, take off the cows anything that taxes their energies. Make them as comfortable as possible, giving shelter from storms and abundance of succulent feed.—M. E. Sherman.

### SOME FACTS ABOUT MILK.

Some idea of the importance of milk as human food may be gained from the fact that about one-sixth of the total food of the average family is furnished by it and its products.

Of the various mammals whose milk is used for food in different parts of the world may be mentioned the goat in the hilly districts of Europe, the buffalo in India, the llama in South America, the camel in desert countries, and the mare on the steppes of Russia and Central Asia. Sheep's milk is used in some countries for making cheese and in other ways, and the milk of reindeers is commonly used as food in the arctic regions With us the milk of the cow so far surpasses all other kinds in importance that unless otherwise specified the word milk is taken to refer to cow's milk only.

Good, unadulterated milk should contain about 87 per cent. of water and 13 per cent. solids.

Milk contains bacteria of many kinds and in varying numbers. They cause the souring of milk as well as the ripening of cream and cheese, and produce many other changes in the appearance and flavor. The number present in freshly drawn milk varies enormously with the conditions of milking, and, as they are greatly increased with dirty and careless handling, cleanliness in all matters pertaining to the milking and marketing of milk and keeping it in the home can not be too strongly insisted on. Disease germs, notably those of typhoid, diphtheria, scarlet fever, and tuberculosis, may also be carried in milk; so that the purity of the milk supply is of vital importance to every family and community.

The problem of keeping milk sweet is one of checking the growth of the bacteria; and as they are inactive at a temperature below 50° F., milk should be kept in a cool place. Two common methods for preserving milk are pasteurization and sterilization. In the former the aim is to apply heat in such a way as to kill most of the bacteria without producing undesirable changes in the milk; in the latter, to apply enough heat to kill all the bacteria, but with the least possible undesirable change. Chemical preservatives in milk are considered injurious to health, and are forbidden by pure-food legislation in many States.

What is commonly known as the richness of milk depends upon the amount of butter fat it contains. There is so much difference in the composition of milk from different cows that large butter and cheese factories now test all the milk they buy, and pay for it according to its butter fat content.

Mother's milk is best adapted by nature to the nourishment of infants. Cow's milk is the most common substitute, and when necessary is artificially modified to make it resemble human milk.

The value of milk for adults is in combination with other foods; not as a beverage merely, but to supply in part the material needed for the body.

Unless exceptionally high prices are paid for it, milk is fully as economical a source of nutrients as other animal foods, but dearer than most staple vegetable products. Milk, however, requires no preparation, has no waste, and is more thoroughly digested than most vegetable foods. As a source of protein, the most expensive of the nutritive ingredients, it is especially economical. Skim milk, which is whole milk minus part of its fat, and which costs only half as much as whole milk, furnishes protein about four times as cheaply as beef. Foods prepared with either skim or whole milk are much more nutritious than those prepared with water.


**Do your cows milk hard? Send 50 cents for teat expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

**Pulp vs. green grass. Give your dairy milk machines pulp, and they will give you returns in the milk pail. Los Alamitos Sugar Co., Los Alamitos, Cal.**

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Write us for prices and descriptive circular of our line of wood soled boots and shoes. We carry the very best goods made in this line. The uppers are made of the best quality of Milwaukee oil grain leather. The soles are well shaped, comfortable, and fit as well as all leather boots or shoes.

We all know wood is a non-conductor, consequently it is much drier and a great deal warmer in winter. They are lighter than Rubber or Leather Shoes and Boots. Shoes, $2.00; Boots, $3.25. The wood sole boots are an absolute safeguard against rheumatism as they keep the feet dry both summer and winter.

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Use it for bruises, strains, collar galls, to toughen the shoulders on work horses, to reduce swellings and for all kinds of troubles where a liniment is useful.

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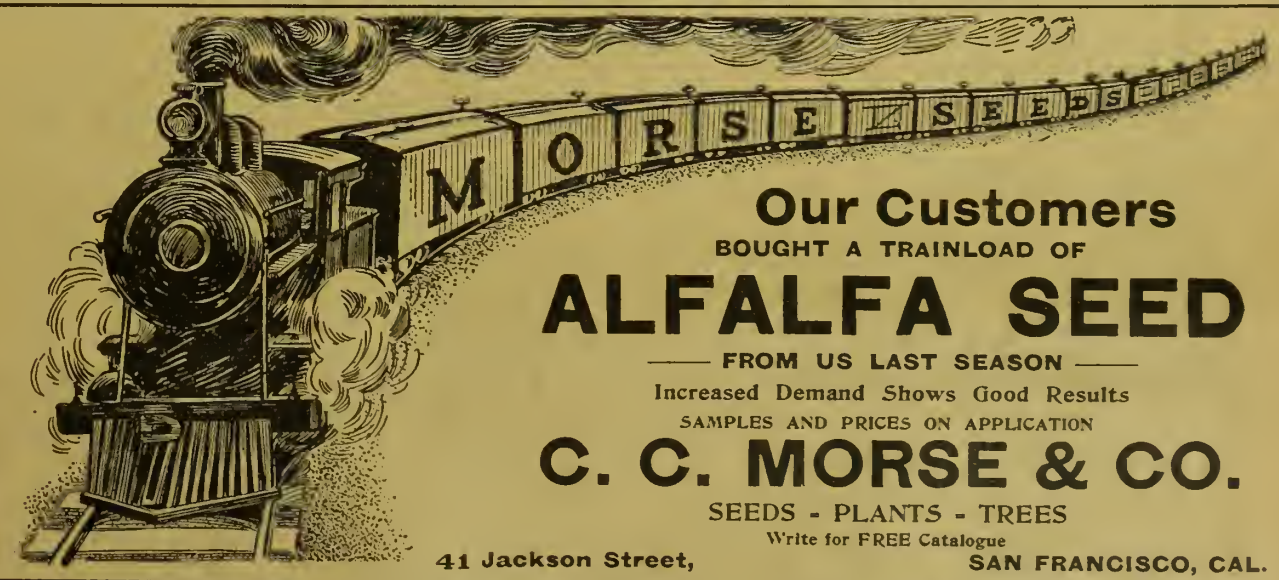


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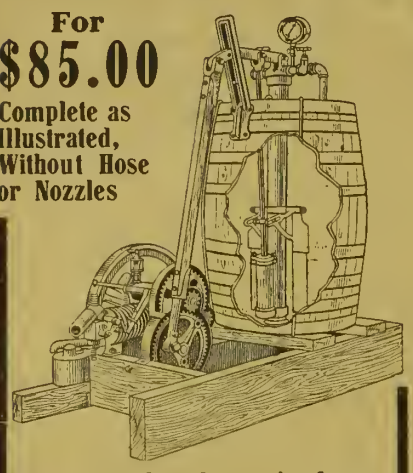

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# Small Fruits and Vegetables

## GOOD POISON FOR SQUIRRELS.

P. D. BARNHART, editor of Pacific Garden, called us over the phone the other day and said that of all poisons he had used to dispose of ground squirrels, the watermelon rind—strychnine combination beat the whole bunch. At times of the year when green feed is scarce, especially if the squirrel holes are a long distance from a melon patch, pieces of the rind with a small quantity of strychnine stuck into each here and there, will kill them off rapidly. Mr. Barnhart was attempting to grow eucalyptus on lands in the Toluca section, and found it a hard proposition because the squirrels took a large proportion of the trees, but by the use of this bait he killed them off, literally by hundreds. To secure the best results, the pieces of rind should not be too large and should be scattered near the holes and left for Mr. Squirrel. Another satisfactory result was that the coyotes which swooped down on the dead squirrels were brought to their finish by the strychnine. This is a very effective double shot remedy, and those who have not succeeded with the poisoned wheat may do well to try it.

## ONION THRIPS.

The prevailing pest upon onions in this country is the thrips. This is a minute, dark colored insect, which deposits its eggs on the young and tender sprouts of the onion, especially before the formation of the bulbs. The larva is a small green worm which feeds by sucking the juices of the plants, giving them a mottled, pale and wilted appearance. The remedy for this pest is whale-oil soap emulsion, made as follows: One pound of the soap is sliced into one gallon of hot water, which is thoroughly stirred, when enough water is added to make four gallons. The mixture is again well stirred and applied while warm with a spraying machine. Six gallons of water to one pound of soap is also effective, while some recommend one pound of soap to two gallons of water. This spray should be applied several times to insure eradication of the pest, as the eggs are unaffected by the spray and hatch at intervals of a week or ten days. Onion sets bought in the market are frequently a source of this pest.—Denver Field and Farm.

## MULCH IN THE GARDEN.

One of the greatest aids to successful gardening is the old-fashioned practice of mulching; those who have adopted it, particularly in hot, dry weather, are convinced of the fact that by its means the fertility of the soil and the quality of the crops are greatly improved. Broadly speaking mulching serves a two-fold purpose; (1) it helps to conserve the moisture in the soil and (2) it provides additional nourishment for the crop.

The best time to apply a mulch is after the rains have given place to the hot, dry weather. In this way the covering prevents the escape of the heat which is stored up in the soil, and the moisture which is about the roots cannot be lost through surface evaporation.

The best mulch is one which is composed of half-decayed farmyard manure, with which has been retained a fair amount of the straw. Fresh stable manure is another very good mulch. In gardens where there is a large quantity of lawn, the cut grass from the spring mowings, if saved in a heap, will also prove suitable for the purpose.

In cases where the mulch has to be applied near or within view of the house and where the long manure may prove unsightly, it can be passed through a coarse sieve or else it may be covered with sifted soil.

## CABBAGE APHIS.

The cabbage aphis is pretty troublesome this summer and will continue so until late in the fall. The broad leaves close together on the head afford an excellent shelter for these aphids. They occur in large numbers and feed in colonies, being easily recognized by a grayish color caused by an excretion from the insect. Clean culture is very important in the field as well as along the fences. When the cabbage is cut, destroy all the leaves, stumps and other refuse as these furnish a breeding place for the aphids, many of which live through the winter in the egg or adult form. This being a sucking insect, kerosene emulsion is perhaps the most effective spray but cannot be used after the cabbage is heading as the taste of the kerosene would be noticed on the cabbage. Whale-oil soap solution as well as pyrethrum may be applied. The destructive work of the insect may be checked by the use of water forcibly applied through a spray pump.

## BLACKBERRY RUST.

Rust is the greatest foe of the blackberry and our scientists seem to have surrendered to it without much of a battle. Judging from the nature of the rust fungus, however, there seems to be no reason why the spraying that is efficacious for other fungi should not be so here. The rust spore must alight on the leaf and germinate there in order to obtain an entrance and foothold. If that leaf be coated with copper, the spore will not germinate. Once infected, a plant is lost, but I can see no good reason why preventive measures should not be effective here. Try Bordeaux, then, for the rust, using a 2-2-50 formula. Spray all during the rust season, from the time the young canes are a foot high till the red rust spores have disappeared and meanwhile grub out every infected bush you can find in your neighborhood.—Oregonian.

The garden is a profitable piece of land. It pays to inclose it with a tight and substantial fence so that the chickens will not bother. The women folks will appreciate this. Since the garden is really a part of the home grounds, it will pay to make the garden fence beautiful as well as useful.

Santa Paula is experimenting with a bean thresher run by electric power.

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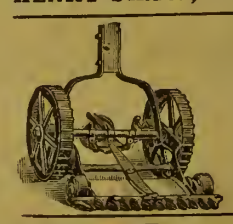

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# The Ornamental Garden

### MEALY BUG AND SCALE.

SOMETIMES we get plants on which this pest has established itself, and in this way other plants in the collection become infested.

Another name for the mealy bug is cotton aphis, and this is much the more appropriate name, for the creature resembles a bit of cotton more than anything else.

Indeed, if one has never seen this enemy of plant life he would not be likely to suspect that the bunch of down showing here and there on the plant—mostly in the axil of the leaf, or some other place in which he can stow himself away snugly—harbored a living organism.

But stir the cottony mass up a little and you will discover life in it—life enough to do a great deal of injury to your plants by sucking the sap from them. If let alone the plant soon becomes covered with cottony tufts, under which the enemy lurks to do his deadly work.

Fight the mealy bug pest with an emulsion prepared as follows:

A good white soap, melted, one pound; kerosene, one teacupful.

While the soap is hot pour in the kerosene. A union will take place. Use this emulsion one part to 10 parts water.

Spray the plants affected very thoroughly, taking great pains to get the mixture into every nook and crevice where the mealy bug has seen fit to establish himself. This emulsion can be kept indefinitely in closely corked bottles.

This same emulsion is of great value in the treatment of scale, which is often found on palms, oleanders and other thick-leaved plants. Use one part of the soap-and-kerosene mixture to six parts water, and wash the plants leaf by leaf with it, rubbing them well with a soft cloth to dislodge the scale after the application has been made.—Farmers and Drovers' Journal.

The above may be all right for the house plant grower in a section where there are no citrus or other valuable trees which may be affected. In such a case thorough fumigation with a strong dose of hydrocyanic acid gas only will suffice.

### STAKING GLADIOLUS.

I plant my gladiolus in beds about six feet across, and of any desired length. Shortly before the time for the plants to throw up flower-stalks I procure coarse-meshed wire netting the width of the bed and as long as needed. At the ends and along the sides I drive stakes about three feet apart.

These are a foot and a half above the ground when in place. I run a stick of thin boarding—lath will do—from post to post, all around the bed, and at intervals of about four or five feet strips are placed across it on top of this frame work.

Over this foundation I spread the wire netting, fastening it here and there to the strips by tying. As the flower-stalks reach up they easily find their way through the meshes. The netting furnishes all the support they need, and the result is an entire lack of formality.

The plants are never formal in appearance, because they have practically arranged themselves. The netting is hardly noticeable and the stakes can be made quite unobtrusive by giving them a coat of dull green paint.—E. Rexford in Farm Word.

### GIANT CACTUS.

The Giant Cereus of Arizona and Northern Mexico is the largest growing member of the cactus family, attaining a height of 60 feet and a diameter of two feet or more. In the United States it is usually known simply as the "Giant Cactus." In Mexico they call it the "Saguarro" (the "g" has the sound of "w"). In proportion to their size, the Giant Cactus are among the heaviest plants known, the body being composed largely of water. So full are they that travellers nearly perishing of thirst have saved themselves by cutting out a large piece and shaping the bottom of the wound to catch the water or sap, which collects in a considerable quantity in an incredibly short time. One would scarcely seek to quench his thirst in this manner except in case of dire necessity, for the sap is not of a pleasant taste.

The flowers, usually white, though sometimes tinged with smoky blue, are borne in a circle of clusters near the top of the plant, giving the effect of its being crowned with a wreath of white blossoms. The blossoms are followed by dull red, edible fruit, quite like a fig or pear in shape. The native Indians make it a point to gather all these fruits for food and in addition manufacture from them an intoxicating beverage. To obtain these fruits, the Indians push them off one at a time, using a long pole, which is sometimes obtained from a dead trunk of one of these giants, for when dry the body splits up into thin strips the extreme length of the plant. The flower of the giant cactus has been adopted by Arizona as the territorial flower, but the sensational newspaper articles about the danger of its extinction are greatly overdrawn.

Beds of Geranium are exceedingly ornamental, provided they are kept in tidy condition. This can only be done by keeping all flower-trusses picked off. If the faded flowers are allowed to remain I know of no plant that can take on a more unsightly, slovenly look. Of course all the buds in a truss do not develop at the same time, and one does not like to destroy undeveloped flowers, but the clusters can be made to look clean and attractive by pulling away from them all flowers that have passed their prime and taken on that draggled look which so detracts from the sightly appearance of everything else in the bed. Unless one has a great number of plants this can be done in a short time. It will be found much easier than going over the bed and cutting out all the faded flowers as sometimes advised.

Too much stress cannot be laid upon neatness in the garden. If faded flowers and fallen leaves are allowed to accumulate, the charm that should characterize it is gone, and no amount of bloom can make up for the lack of care which is thus made manifest.


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PUBLISHED EVERY THURSDAY BY THE

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115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, October 14, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

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## Horticultural Examinations.

THE first examination by the state board appointed to investigate as to qualifications of applicants for position of country horticultural commissioner, was held in the city of Los Angeles last week. From those who qualify the board of supervisors will select the county commissioner.

San Bernardino and Riverside counties next held examinations and we understand other counties will hold them in turn until all have been visited by the examining board which is composed of A. T. Garey of Los Angeles, E. K. Carnes of Sacramento, and E. B. Collier of Corona.

## Five Acres Apiece.

CONSIDERABLE interest is being stirred up in Southern California, and in fact through the whole country, over the proposed action of the Department of the Interior in assigning only five acres to each member of the Yuma Indian tribe in lieu of the reservation which is to be taken from them and thrown open to public entry in the near future. In many former cases each Indian has been granted a quarter section. In the present instance water has been brought under control and will be conducted to these lands so that each five acres apportioned will have its individual water right. But those who would see justice done to the Indians argue that while a white person might make a living from five acres, it would be practically impossible for an Indian to do so, and are appealing to have the amount doubled so as to give ten acres to each. It seems that such action would be eminently just to the Indians, and we do not believe it would be unfair to anybody else. Resolutions have been passed by representative bodies urging this, and many petitions have been forwarded to the Department.

## Department of Health.

WE HAVE received a bulletin from the Committee of One Hundred on National Health with headuarters at New Haven, Conn., which presents various arguments for the creation of a cabinet department of national health. This is said to be promoted by the insurance companies of the country, or at least with their co-operation. It is possible such a movement may find favor in the eyes of the people, but to us it looks as if specializing on every feature appealing to certain classes as worthy of more attention, is being carried to extremes. The Department of Agriculture has aided in such matters in the past and doubtless will continue to do so. This is a question of education of the people and we hardly feel that it requires a special cabinet position.

## Yuma Indian Reservation.

MANY inquiries have come to the Cultivator regarding time of opening of the Yuma Indian Reservation. In the course of correspondence with the Department at Washington on the subject, we have received the following under date of October 7th from Mr. C. J. Blanchard, Statistician.

"I regret very much that it is not possible to give you definite information as to when the lands under the Yuma Indian Reservation will be opened to entry. This information can come only from the Secretary of the Interior. It is the custom for the Department to issue a public notice about sixty days in advance of the formal opening. This notice will give full details concerning the method of disposing of the lands, terms of water right conditions, etc."

## Fuel.

THE Santa Ana Bulletin suggests that if the pumping plant owners in Orange county were wise they would form a co-operative organization to send a representative to Washington to make a thorough study of the manufacture of denatured alcohol, preparatory to establishing a co-operative still to produce fuel for the pumping plants of that section. It is very probable that such a scheme might work out, as there is almost unlimited vegetable refuse which might be used for the manufacture of alcohol. The suggestion at any rate is worthy of investigation.

## State Grange.

THE State Grange held its regular annual session in Petaluma last week with a full attendance of delegates from various northern counties. This organization has granges in nearly every section of the north, but the southern part of the state has never been thoroughly organized. Reports were received from state officers, a reception was tendered by the Sonoma County Grange, and a most profitable session held.

## Farmers' Week.

ON THE deciduous page of this issue appears an outline of the program for Farmers' Week, October 25th to 30th, at the state farm at Davis. This will be a most profitable week, and every farmer who can break away to attend should do so. The program is remarkably good and should prove most helpful.

## Dry Farming Congress.

FINAL announcements are being sent out of the Dry Farming Congress to be held in Billings, Montana, October 26, 27, and 28. Speakers from various parts of the world are scheduled and an excellent program is promised.

## Pollenizing the Smyrna Fig.

(Continued from Page 363.)

inches from the point of divergence from the body of the tree, allowing at least two branches to remain, one of which should be on the southwest if possible, so that the grafts will be shaded from the afternoon sun.

The object in leaving the branches is for the purpose of having an outlet for the sap, for the removal of the entire top of the tree is dangerous. In the coast counties fig trees, and other trees as well, can have their entire tops removed, and still withstand the shock, the scions taking readily, if properly inserted, but in the interior valleys, where the atmosphere is dry and warm, to remove the entire top of a fig tree close to the main body would result in the loss of the tree, a fact which has been fully demonstrated by the writer by actual experience. The two branches which have been allowed to remain can be sawed off entirely the following season, or they can be in turn grafted, if the scions of the year before have not taken well, or if you have not sufficient branches from your preceding season's grafting to form a good head on the tree.

After having sawed off the branches the stumps or subjects to be worked on should have the tops neatly smoothed over with a sharp knife so as to have a clean, smooth surface, particularly along the edge. From two to four scions should be placed in each stock, the number of course being regulated by the size of the stump. Cut out a V-shaped piece of bark; the distance from the top of the stock to the point of the V should be from 1 to 1¼ inch.

Select a scion of the proper size, making a sloping cut along the lower end, as long or somewhat longer than the incision on the stock. The scions should be cut the same as for a whip graft, except that the cut is all on one side and should have a little more bevel and the second cut for the tongue of the whip graft should be omitted. The scions should never be smaller than an ordinary lead pencil; as a rule scions from two-year-old wood, as they have very little pith, with a diameter of 5-16 to ½ inch will be found to give the best results.

The scion should be of such a size that it fits snugly into the opening in the stock, so that the bark on both sides of the scion touches the bark of the stock. After the scions are placed, wrap tightly with five or six-ply cotton twine, so as to hold them in place, and cover the wounds as well as the stub with liquid grafting wax. Also be careful to wax the top of the scion to prevent drying out. Never use wax cloth for wrapping, or if you do, be careful to remove it early in the summer before the warm weather sets in, or the bark, when the grafts are set, will be smothered and the grafts will die. After the scions have become well united, which takes from two to three months, the strings can be cut.

The writer prefers this method of grafting to all others and has had no difficulty in making fully 90 per cent of the scions grow, many of them making a growth of 5 to 7 feet in a single season. This method of grafting cannot be practiced until the sap begins to flow, and from the latter part of February to the 1st of April has been found to be the best time. The scions should never be more than 4 inches long.

The grafting wax should be melted in a pot and put on hot, using a small paint brush, or a brush made out of short pieces of hay rope tied to a small stick answers the purpose just as well. The best results have been secured by using a wax made of one pound beeswax, three pounds resin and three ounces of raw linseed oil by weight. Place the beeswax and resin in a kettle and cook same until thoroughly dissolved, then add the oil and allow the ingredients to cook slowly for ten or fifteen minutes longer. Remove from the fire and as soon as the wax has cooled some pour a small quantity into a bucket of lukewarm water. Grease the hands and take the congealed mass and knead and pull it until it becomes very tough; wrap in oiled paper and it is ready for use. By preparing the wax beforehand the ingredients are mixed in proper proportions, which is not easy to do when you have a large amount of work to do in the field. This wax is also far superior to wax which has not been pulled.

# Agricultural News Notes of the Pacific Coast

## Northern California

Hops are selling at more than four times last year's prices.

Biggs, Butte county, is harvesting a large crop of Tokay grapes.

Meridian, Sutter Co., will have an immense crop of beans this year.

California's hop output this year will be only about half the normal.

Secretary Ballinger recently inspected the Orland Irrigation project.

State Grange Patrons of Husbandry held its annual session in Petaluma last week.

Immense numbers of Tehama county sheep have been sold during the last week.

Butte County reports ideal citrus weather with oranges promising an earlier season than usual.

The foundation for the big dam at East Park at the head of the Orland project has been completed.

A colonization scheme is on foot by which 5000 acres of Brown's Valley, Yuba county, may be utilized.

A Santa Rosa poultryman has invented and is manufacturing an incubator which he calls the Santa Rosa.

Biggs reports practically all harvesting of fruits as finished. Figs are the only crop yet being gathered.

The warm weather following the recent rains has proven the salvation of many table grapes of Sutter county.

Patrons of Husbandry of California are going to make a pull to secure the next meeting of the National Grange.

Sheep buyers in Tehama county find the supply of sheep much shorter than usual. Owners have refused $4.50 per head.

The directors of the Butte County Citrus Association are preparing for the season's pack and a magnificent yield is promised.

Farmers along Butte Creek near Durham, Butte county, are asking the board of supervisors to aid in the construction of levees.

Ukiah prune growers are marketing their prunes on the two cent basis. They are running so large that they average about $55 per ton.

A number of San Francisco capitalists have organized a corporation for the purpose of growing eucalyptus forests in Tehama county.

Prune growers near Red Bluff, Tehama county, appreciate the warm weather following the recent rains. But few prunes will be lost.

The supervisors of Yuba county have voted $5000 of county funds for protection by a levee system along the north side of the Yuba river.

The chamber of commerce of Sacramento proposes to inaugurate a magnificent exhibit of the products of Sacramento county in the big depot building of that city.

A grazing inspector in the forest service has reported that the injury from forest fires this year in the mountains back of the Sacramento Valley has been less serious than heretofore.

## Central California

Fresno County Fair expects a large exhibit of pure bred farm stock.

Some raisin growers have secured a cent a pound advance on their crop.

Hanford, Kings county, reports practically no damage from the rainfall.

The site for a new co-operative creamery building has been secured at Delano.

Fowler packing houses are working their help overtime handling large quantities of raisins.

Most of the grain of the Valley was delivered and stored in warehouses before the recent rains.

The California Cream and Butter Co. is building a new creamery at Riverside, Fresno county.

Modesto grape growers have declared war on the English sparrow which is doing great damage in the vineyards.

The Fresno County Horticultural Commission reported that red spider has been found in some Tulare county orchards.

The new creamery at Delano, Kern county, soon to be built, will be managed by F. H. Elliot, formerly of the Tipton Creamery.

The September and early October rains have done serious damage to table grapes and will very greatly reduce later shipments.

Beet growers are planning to ask from the State University an investigation of beet blight which is seriously affecting some sections.

The twelfth semi-annual meeting of the Counties Committee of the California Promotion Committee will be held at Visalia November 13th.

Many lemon groves of eastern Tulare county have been either cut out or re-budded to oranges, because of the unsatisfactory condition of the lemon market.

The farmers union packing house at Selma is practically finished except that machinery is delayed in arrival. The house already contains a large amount of fruit ready for shipping.

The horticultural commission of Tulare county has found that lemons shipped into the citrus section have been infested with red scale, and are taking active steps to prevent further shipments.

Grain crops in the vicinity of Tehachapi proved exceptionally good this year and those who have engaged in apple and pear culture are finding them very profitable crops for that section.

A new planting of eucalyptus is contemplated in Kern county. The land company has sold several sections to the California Home Extension Association which will colonize and plant much of it at once.

A farmer at Turlock, Stanislaus county, will make the experiment this season of shipping a car of mixed dried fruits and some honey to a point in the Mississippi Valley. They will be disposed of to the retailers in the smaller towns.

## Southern California

Oranges at Mecca, Riverside county, are beginning to color.

Imperial Valley will soon have an alfalfa meal milling company.

Imperial Valley cotton pickers now report a bale and a third of cotton to the acre in some land which has been picked.

It is reported that the State University will establish an experimental station, in the Imperial Valley, possibly at Heber.

Orange county fruit growers are making a most vigorous kick against the appointment of a political horticultural commissioner.

The citrus growers of Ventura county recently met at Ventura and adopted by-laws and a constitution for a new association.

The Hemet and San Jacinto potato fields produced over four million pounds of Irish potatoes and five hundred thousand pounds of sweet potatoes.

Dairying has been given an impetus in the Coachella Valley, and a number of cows will soon be introduced to increase some of the dairies already established.

Four counties of Southern California, namely, Ventura, Santa Barbara, Los Angeles and Orange, produce practically all the lima beans consumed in the United States.

The Tri-Counties Reforestation Committee at its recent meeting at Riverside passed resolutions completely endorsing the position of Gifford Pinchot in the forest service.

Lima bean growers of Ventura county are strengthening their position every week, and every producer in the state is wishing them well in their efforts to secure a living price.

The Carroll patent dumping appliance invented by Mr. Tim Carroll of Anaheim, patent on which was contested, has proved that it is entitled to the patent, and Mr. Carroll has won his case in the courts.

The California Vegetable Union estimates the coming Orange county celery crop at practically 2000 carloads. Last year's output was about 1700. Extensive shipments will not begin until late in October.

The railroads have finally filed their notice of advance in freight tariff on lemons to take effect November 15th. A strenuous fight against this injustice will be made before the Interstate Commerce Commission.

The efforts of the irrigators taking water from the Santa Ana river, to spread the storm waters over waste lands where they would enter the gravel and later percolate back into the stream course, is being opposed by the supervisors of San Bernardino county.

Arrangements are being made for the equipping of another and much larger creamery at Brawley than has before been established in the Imperial Valley. This concern is controlled by the Imperial Valley Milk Company, of which W. P. Mansfield is President and Philo Jones, Secretary.

## The Coast

Spokane is after the Dry Farming Congress of 1910.

Hawaii produced this year about 1000 tons of honey.

Portland potato prices are now about 60 to 65 cents per sack.

Cloverland, Washington, will market 20,000 boxes of apples this year.

Spokane, Washington, is planning for an extension of her good roads system.

Oregon farmers are disposed to hold their wheat rather than sell at present quotations.

Refuse molasses of the Hawaiian sugar mills is used in the manufacture of alcohol.

One ranch at Odessa, Washington, claims a record of 100 bushels of oats to the acre this year.

A hundred cars of potatoes and apples were shipped from Outlook, Washington this season.

A Wenatchee, Washington, apple grower netted $6,000 from six acres of apple orchard this year.

The gold medal for finest honey at the A-Y-P Exposition was won by an apiarist at Wapato, Wash.

The new Union Stock yards at Portland, Oregon, reports an extremely strong demand for all good stock.

Farmers at Ellenburg, Washington, are planning for a stronger co-operative organization which will handle their wheat.

The agricultural college at Pullman, Washington, will make experiments as to productiveness of sage brush land.

Farmers at Dayton, Washington, are holding their wheat, having stored over 275,000 bushels, rather than sell at existing prices.

The Pacific National Livestock Show held in Portland at the end of September brought out an attendance of over 10,000 people.

Grain shippers of Central Washington have been seriously injured by the car shortage which has prevented proper movement of the grain.

Forty-five square miles of territory will come under irrigation at Husum, Washington, as the result of the recent completion of a long irrigating canal.

The Klamath Falls, Oregon, Water Users Association is preparing to entertain the Senate Irrigation Investigation Committee on its visit there early in November.

For two years experiments have been carried on with Chinese sedge and a Japanese matting grass in the Hawaiian Islands. The results have been very satisfactory.

The co-operative marketing organization of farmers at Pullman, Washington, which is made up largely of farmers union and grange members, will hold regular educational sessions during the coming winter.

State college professors of Washington Agricultural College at Pullman, are maintaining a wheat breeding farm with the especial aim of producing a wheat suitable for the dryer parts of the Northwest.

# West Coast Egg Food

***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90, 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

## West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

## FOR MOULTING HENS

***Feed***

# MIDLAND

## Poultry Food No. 4

***$1.95 per Sack***

Midland moulting food is a balanced ration for the moulting hen and is absolutely the best food to feed for eggs and feathers. By feeding No. 4 now you bring your flock through the moult in good condition, which insures eggs when the market is high.

***Petaluma Incubators and Brooders***

Are still here, after others are gone. ***The Standard of the World Machine.*** Winners of ***more prizes*** awarded by ***World's Fair Judges*** than any other make.

Remember, we make a hot water machine. One of the ***best hot water machines*** on the market.

Send for our Illustrated Catalogue.

## Petaluma Incubator Company

**Petaluma, California**

Our General Agents for Incubators and Brooders and Midland Poultry Food:
**Petaluma Incubator Co., Petaluma, Cal.**
**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**
**Berrar & Robertson, San Jose, Cal.**

## White Leghorns

**A Standard Strain of Great Layers**

With our Standard Strain as a foundation and with the ideal conditions that exist at the Model Poultry Farm we have produced a flock of birds this season that for beauty and utility can not be surpassed.

Eggs, Stock and Chicks for sale. Send for descriptive circular of our Stock and Farm.

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## Model Poultry Farm

IRVINGTON, ALAMEDA CO. CALIFORNIA

## MRS. C. D. HUBBARD'S

***WHITE WYANDOTTES***

Eggs for hatching September 1st '09. Write for circular.

BOX 60, ROUTE NO. 1 SAN FERNANDO CAL


# Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

### RHODE ISLAND REDS.

AMONG many bright men and women who have put forth best efforts toward improving various breed of chickens, surely the name of the Rhode Island farmer who first culled out from his flock all save "red" birds, should stand pre-eminent and like Abou Ben Adhem's "lead all the rest."

I bought a few settings of Rhode Island Red eggs from two prominent Eastern breeders in March 1904 and set them under some Leghorn hens I had ranging around my place.

The eggs hatched well despite their long ride from New England to Kentucky and when the chickens were grown I was so pleased with them I decided to dispose of the Leghorns, confine myself to Rhode Island Reds in the future and to equip my place as an up-to-date poultry plant.

While the Rhode Island Reds, which are a combination of the Cochin, Leghorn and Malay Game are a comparatively new chicken, having only been admitted to the "Standard" by the American Poultry Association in February 1904, I think they have more good practical points combined with fewer undesirable qualities than any other chicken. They are: Broilers at seven weeks, Fryers at nine weeks, Layers at twenty weeks.

When full grown Rhode Island Red hens average 7 to 9 pounds each and cocks nine to thirteen pounds. They are big red birds with red eyes, brown beaks and smooth yellow legs. The males are a rich cherry red and the females a lighter shade of red. They have the laying qualities of the Leghorn, the vitality of the Malay Game and the heavy coat of feathers peculiar to the Cochin—but with bare legs. Their color does not show soil. They are a desirable table fowl at any age, having oblong bodies, wide, deep, full, plump breasts and yellow skin.

They mature early, are very hardy, and will stand severe winters and continue laying. They are good hustlers and bug hunters and require less feed than common chickens. They lay big brown eggs, are enthusiastic setters and excellent mothers. They are free from disease and with their wonderful laying qualities, especially in the winter are the ideal farmers' fowl.

I divided my eight acre orchard into six pens, fenced with 5-foot poultry neting. In five of these pens I keep my laying stock, while the sixth is reserved for hens with little chicks. This latter pen I have equipped with twenty-four lath coops thirty inches square, with removable floors and roofs, each just large enough for a hen and her progeny. These coops my assisstant cleans thoroughly every day and the little chicks wax fat and hearty on a diet of wheat and cornbread until they are six weeks old when I transfer them to the pens with the grown chickens and feed them a dry mash in the morning and a mixed grain ration in the afternoon. I watch my hens and turn the loafers over to John, my assistant, who is also Lord High Executioner.

A hen that will not lay 180 eggs per year when fed a liberal, properly balanced ration, comfortably housed and well cared for, generally cannot in my opinion be medicated or "doped" into laying, and looks better to me on the dinner table than encumbering the ground by her presence. Again by carefully weeding and culling out all birds defective as to color, size, shape, eyes, comb, etc., a better flock is gradually attained.

When my birds are grown I examine each one carefully and if it fails to coincide in every particular with the "Standard" I cut it out of the pen and either eat it or send it to market. I keep nothing in my pens that I would be ashamed to exhibit and in consequence, while my flock is not so large as it might otherwise be, it is very "select" and I get lots of eggs, especially in the winter when prices are high. I expect to stick to the Reds hereafter. It is my opinion that a flock of Rhode Island Reds properly cared for, will do more towards lifting the mortgage with which many an American home is ornamented than many days of toil afield.—Moss J. Beall, Horse Cave, Ky.

### COMBINED POULTRY AND PIGEON SHOW.

The Sixth Annual Exhibition of the Alameda County Poultry Association and the Fourth Annual Exhibition of the California Pigeon Club will be held in Oakland at the Piedmont Pavilion November 23rd to 28th. Much interest is being taken in this event on account of the excellent show hall which will give ample room to handle an exhibition of 3000 birds, single decked and with broad aisles.

Mr. Henry Berrar the well known poultry judge will place awards and Mr. W. E. Whitman and Mr. C. B. Jennings of Oakland will judge the fancy and utility pigeons.

Handsome trophy cups, cash prizes and ribbons will be competed for. The following officers have charge of the joint show. Jas. Stansfield, Pres.; W. E. Gibson, Vice-Pres.; Malcolm Lamond, Treas.; Wm. T. Frost, Sec.; W. C. Wheeler, Superintendent.

### POULTRY QUERIES.

**Sun Flower Seeds.**

Replying to Amateur of Morganhin regarding sunflower seeds, I will say that while I never fed any to turkeys, I have had considerable experience with them as feed.

Nothing, with the possible exception of a limited quantity of flaxseed, is so good for the moulting fowl, as sunflower seeds.

Fed to horses they give a shine to the coat most beautiful to behold. A reasonable quantity makes most beneficial feed for cattle and it seems very probable that they would be good hog feed.

However, I should not advise them as the sole article of diet for any stock. We found the seed difficult to harvest satisfactorily as the heads had a tendency to mildew before getting dry enough to shell readily. They are however a feed which every poultry man may grow profitably when

nothing else could be produced. And it is the things which cost time and foresight rather than money which make any branch of poultry keeping profitable.—B. J. O'M.

### Roup Cure.

The Cultivator of September 23rd contained a query signed Subscriber, Petaluma, asking a cure for roup. The answer was, the ax. Although that may be wise, I prefer to use Royal Poultry Food. I have been in the chicken business more or less for the past twenty-five years and have never had a case of roup. I feed this to the chicks and the roup never gets a hold on them. Roup is a disease like diphtheria or horse distemper. Did you never have a cold in your head when your eyes seemed to bulge from your head and your throat was raw and sore? If you have, then you can pity the poor hen.—Subscriber, Gridley.

### SELLING THE AGED EGGS.

In the Paris markets they have a certain way of deciding the age of eggs, which seems practical.

About six ounces of common cooking salt is put in a large glass, which is filled with water. When the salt is in the solution the egg is dropped in the glass.

If the egg is only one day old it immediately sinks to the bottom of the glass.

If three days old it sinks only just below the surface.

From five days upward it floats; the older it is the more it protrudes out of water.—Farm World.

### THE DUST BATH.

Poultry cleanse themselves of insect pests by dusting their feathers and then shaking the pests off with the dust.

Heaps of very dry dust for poultry to wallow in should be placed in the sun. If possible, have some shelter so as to be warm and perfectly dry.

The dust bath is to the hen what the bath tub is to the individual. When a hen is setting she will come off as regularly to dust herself as to feed, for instinct teaches her that it is the best method of ridding herself of lice. Dust is cheap and should be used plentifully these days.—Successful Farming.

---

The number of eggs a hen may lay before she begins to sit depends a good deal upon her condition when laying. The well fed, fat laying hen will not lay many eggs before she begins to sit, usually. Fattening a laying hen is very apt to cause her to become broody; at least the tendency is that way with larger varieties. However, it would not be wise to feed breeders too heavily.

---

An excellent animal feed is commercial beef meal, which should be fed in a dry state Do not overfeed with any of the meats. Always feed too little, rather than too much, and allow a liberal ration of vegetables to go with them.

---

People on large plants often fail through ignorance, waste and mismanagement. People do not realize that the cause of failure in the poultry business is the same as in any other vocation of life.

---

Cull the flocks resolutely as they grow. Stunted and deformed chickens cannot be grown with profit—kill them. The poultryman's rule must ever be the "survival of the fittest."

---

If the geese have confidence in the feeder they will be very friendly with him.

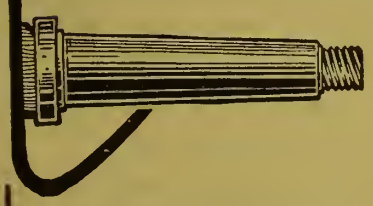
---

Pure breeds are always to be preferred to crosses.


One horse is as good as two when

**MICA AXLE GREASE**

Coats the Spindle



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***Toulouse*** ***Embden***

Prize winning stock never beaten at any poultry show.

***$1.50 Per Setting***

Fine Toulouse Ganders for sale at $4.00 each.

Send your order at once for the best stock in the west.

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**High Protein Meat Scrap**

Just what the name implies.

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We win more prizes on Pacific Coast at leading shows than ALL COMPETITORS COMBINED. This season: 40 regular prize ribbons, 15 SPECIAL ribbons and 9 SILVER CUPS. Free catalogue. Stock and eggs for sale. Eggs $2.00 and up. Stock $2.50 and up.
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MADE IN PETALUMA
GUARANTEED
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**Have You Tried**
**Coulson's**
**No 3 Condition Powders**
**for Poultry?**

A first-class tonic and conditioner like ***Coulson's No. 3 Condition Powder*** is of great benefit to the chickens, especially when used at this time of year.

***Coulson's No. 3 Condition Powders*** will prevent diseases, by keeping the flock in a thoroughly healthy condition. By the same means it will keep them laying longer into the molt, and their healthy condition will enable them to molt quickly and commence laying at an early date. As it contains no injurious stimulant, it can be used with perfect safety at all times and for this reason is fed in large quantities by numerous poultrymen.

**It Contains No Cheap Filler**

In buying a bucket or sack, therefore, every pound is of value to the chickens, and will give you large returns for the money invested.

For sale by all dealers or at factory.

**Coulson Poultry & Stock Food Co.**
**Petaluma, California**
**Germain Seed Co., Los Angeles, Distributing Agents for So. California**

Testimonial

Coulson Co., Petaluma, Cal. Petaluma, Cal., July 21, 1908.
Gentlemen—I consider your ***No. 3 Condition Powders*** an excellent tonic to put laying hens in good condition. H. A. GEORGE.

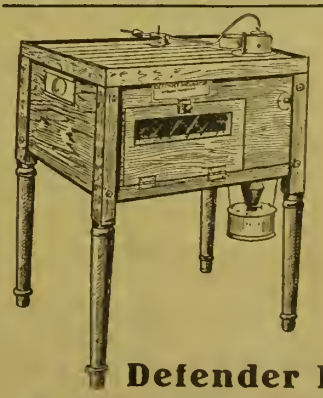
**STANDARD EGG FOOD**

The kind that makes hens lay when other foods fail.

**90 Lb. Sack $2.35**

**Acme Roup Cure is Guaranteed. 50c Postpaid.**

**HENRY ALBERS CO., 845** S. Spring St. Los Angeles



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**WARD'S ORIGINAL FIRELESS BROODERS**
PRODUCES STRONGER, HEALTHIER CHICKS THAN ANY HEATED BROODER
FULLY GUARANTEED
NO LAMPS. NO OIL BILL. NO DANGER OF FIRE
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Please send Free Sample of Page Woven Wire Fence and Catalog. I own.....acres and am interested in
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(Put check mark in proper squares.)
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*State*_____ *R.F.D.*_____

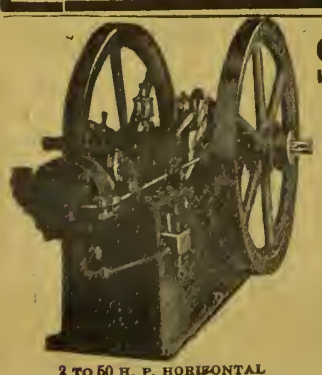


# Malthoid Roofing

Mr. C. H. Wagner, Gen. Mgr. Russ Lumber Co., San Diego, Cal., U. S. A., writes as follows: "A fire occured during the night of August 17th and was not discovered until morning. Blaze had died out as the roofing would not ignite. This roof is covered with your Malthoid Roofing. We consider that the resistance of the Malthoid Roofing stopped the blaze and saved the plant."

**The Paraffine Paint Co.** No. 34 First Street San Francisco, Cal.
**E. G. Judah, General Representative, Security Bldg, Los Angeles**





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# General Agriculture

## AGRICULTURE IN ALASKA.

IT IS more than forty years since Alaska became a part of the United States. It has added over $300.000,000 to our public wealth, yet we imagine it to be a land of ice and snow, desolate and barren, and of little value. It is a vast country having an area of almost 600,000 square miles. It has 26,000 miles of sea coast and over 4,000 miles of navigable rivers. It has the most wonderful glaciers in the world, high mountains, gold, silver and copper mines of fabulous value, vast coal fields, rich fisheries, valuable fur-bearing animals, extensive forests and thousands of acres of fertile land suitable for farming and stock raising. The climate is not all Arctic in character but varies from the temperate in the south to the frigid in the north. The Japan current so "modifies the latitude," that south and southwest Alaska are very little colder than the Puget Sound country.

Agriculture in Alaska is only in its infancy, but successful experiments have proven that in much of the territory south of the Yukon, the hardy grains, grasses and vegetables can be successfully grown. The Seward Peninsula and Arctic Coast regions have few agricultural possibilities, but at a station 68 degrees north, within the Arctic Circle, potatoes, cabbages, turnips, rhubarb, etc., are grown of good size and excellent flavor. In this part of the territory there is developing a novel stock industry that may make Alaska the meat producing country of the Northwest. About fifteen or twenty years ago, a number of reindeer were brought here from Siberia by the government. These have increased until they number twenty thousand. They find their own living all the year, in the winter digging in the snow for the reindeer moss. The flesh is excellent food. and the natives use the skin for clothing. It is estimated that Northwest Alaska can furnish winter pasture for 8,000,000 reindeer. The increase is very rapid, about 33 1-3 per cent yearly.

In the Tanana Valley over 30,000 acres of land has been homesteaded and there are a number of good farms. Near Fairbanks there are several hundred of acres warmed by hot springs. Here the tender vegetables, tomatoes, melons, etc., are grown. In the valley of the Copper River, in the Prince William Sound country and around Cook Inlet are thousands of acres of native grasses, often three, four or five feet high. These grasses are sweet and nutritious and make excellent feed for cattle. In most localities they can be cured for hay. Where wild grasses grow so luxuriantly it is probably only a matter of time when the tame grasses will be established. It is thought alfalfa and white clover would do well, for in some places the wild pea covers the hillsides and often along the roadway thrifty clumps of white clover with its snowy blossoms smile a welcome to the traveller. Wheat, oats, barley and rye come to maturity in some localities. In other sections they are grown for hay. Berries of all kinds—blueberries, raspberries, strawberries, salmon berries, cranberries and currants both black and red and of good size and flavor are plentiful. In some parts the wild crab apple grows. Most of the vegetables grown are crisp and good, and yield well. The seasons are short, from four to six months according to locality, but in the long hours of daylight and sunshine everything grows with surprising rapidity.

It is thought by some that dairying might be made profitable, for butter and cheese are compact products, and they use the rough forage, hay and root crops, and furnish labor for many hands. Experiments have been made with silos and they are said to be successful. This will take care of the green crops and all that do not ripen. Stock will have to be fed for five or six months, but that does not make stock raising in Alaska an impossibility, for in part of Minnesota cattle are fed six and seven months and a profit made. But it is no easy matter to open a farm in Alaska—labor, patience and time are required. First the land must be cleared of timber, then in many places there is the "tundra," thick clumps of moss that have been there for ages, which must be grubbed off, and gotten rid of in some way. When the soil is "new," sometimes it is "sour." It will take time to "tame" it, and make it ready for cultivated crops, and the seeds, many of which must be acclimated. It is thought seeds from northern Europe might do well. Money and labor, patience and time are needed in large measure to fit Alaska land for cultivation. Probably this territory will never be a great agricultural country, but there is little doubt but that in a very few years, Alaska will be furnishing food stuffs for a large part of its population. Even now the home grown products are making a showing. In 1906 there were 211,215 bushels of potatoes shipped to Alaska. In 1908, only 167,033 bushels. In the same time the hay shipments were less by 1200 tons, while the number of cattle and horses had increased.

Heretofore lack of transportation facilities has been one of the great drawbacks to the development of Alaska, but now several great steamship lines are competing for the trade. One of these, the new Alaska Steamship Company, the largest line operating exclusively in Alaska, has sixteen large steamers that run regularly to Alaskan ports. In the interior the thousands of miles of navigable rivers and several hundred miles of government roads are being supplemented by railroads that are building in several parts of the territory. One to the Matanuska coal fields and another in the Copper River country are the most important ones. The Copper River road, with its sea terminus at Cordova, has over sixty miles of road in operation and will keep the men at work all winter pushing on to the interior to the great copper mines. The same company is building a branch line to Katalla, to reach the great Bering River coal fields.

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## Forestry

### EARLY PLANTING FOR EUCALYPTUS GROVES.

AN old adage, "Prune when the knife is sharp" may be more generalized and, indeed, become axiomatic in some such phrase as this, "Agricultural operations have no fixed time."

According to the theory of horticulture, which has been expounded in numerous more or less ponderous volumes, the operation of grafting should be performed just when the sap begins to get active, or when the buds begin to swell. To carry this out faithfully, owing to weather conditions, may be quite as difficult as to answer the question, "What does an egg-plant bear?"

A propagator told me, a year or two ago, that he always made a point of getting all his grafting done before Christmas; and he invariably had an almost perfect stand.

Where weather conditions are extreme, as in the Eastern states, it is very easy to make arbitrary rulings as to the time when certain work should be done, and when one moves to a kinder climate the force of habit is stronger than the desire to change when under different environment.

It is so with planting. In the East it is the universal custom to look upon the spring as the season of year when the ground should be stirred, and all transplanting attended to. Of late years, however, the nurserymen have endeavored to encourage fall planting of hardy trees, but, in either case the season is arbitrary, owing to the rigor of mid-winter.

Not so in California, however, where the planting season extends from the first of November to the first of May, obstructed only by the occasional rain storms which render the land temporarily too wet for working. This long season is extended to the utmost by the very commendable practice of fall or summer plowing, opening the soil, and making more readily available even a light rainfall, which will permit the harrowing and levelling preparatory to early planting.

Particularly is this desirable in the case of the planting of eucalyptus forest groves, and for the following reasons:

1. The ground is in better condition and will not become packed as it would after the winter's rainfall.
2. For extensive planting it is often extremely difficult to obtain the necessary help at the proper time if the work is deferred until spring.
3. Planted early, the eucalyptus seedlings are making root growth all the winter, and are in consequence much better able to withstand the heat and drought of the first summer, however well they may be cultivated. Irrigation, even where rainfall is light, may often be dispensed with if plants are set in the early winter, and well cultivated. No specific instructions, however, may be given in reference to this last point, some soils retaining moisture much more naturally than others.

Properly hardened plants which will not stand the first winter's frosts without serious injury should not be planted at all. In other words, the wrong species have been selected. This is a matter of detail and technical knowledge about which there should be no element of speculation. The information as to suitable species for a given locality is easily obtainable, from those who have had the experience.—Leonard Coates, Morganhill.


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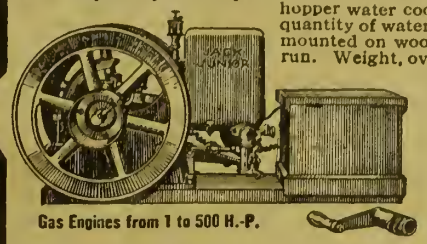


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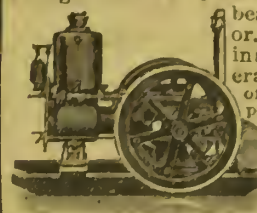

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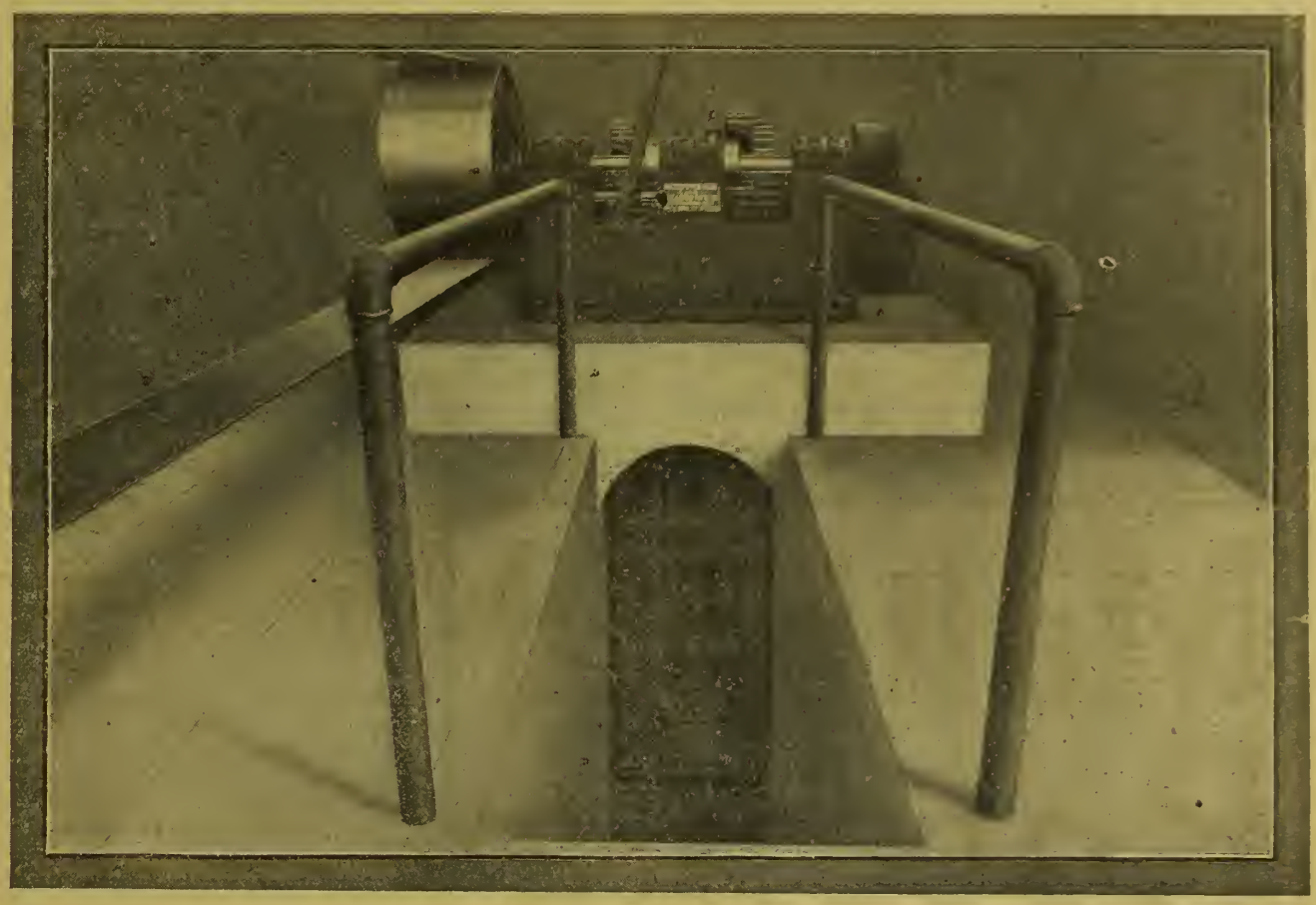
for their 64-Page Illustrated Catalog. It contains information about the Ames system of pumping water for any service.



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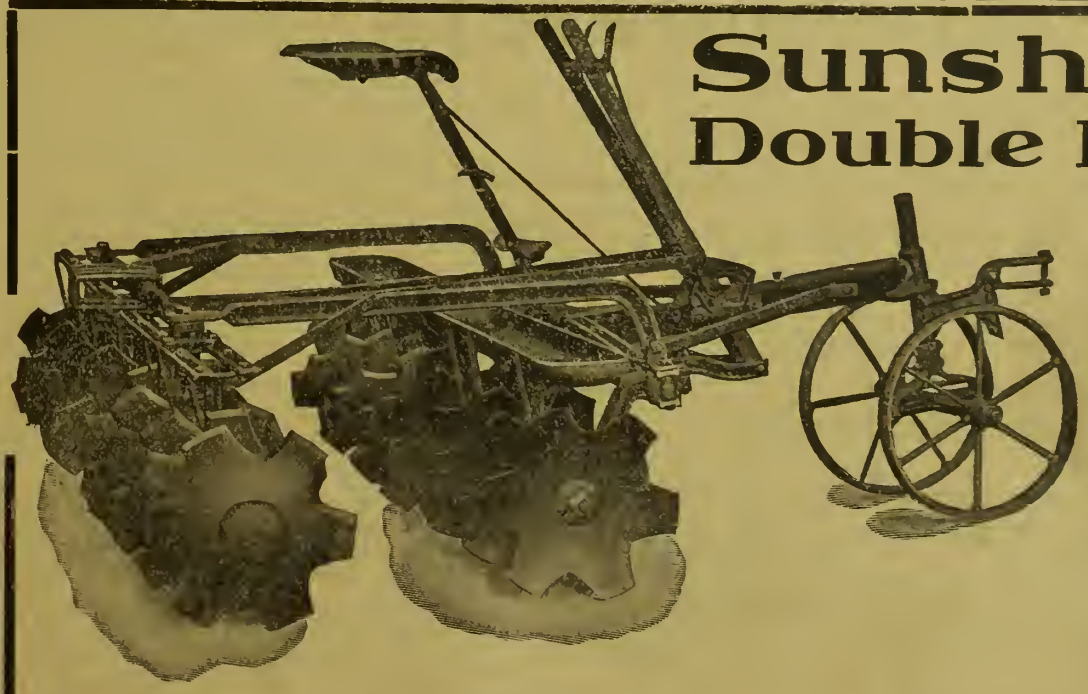

Will thoroughly pulverize and cultivate the soil in one operation, and will leave a level surface.

The 'Sunshine' can be changed from a Double to a Single Disc Harrow in a few minutes' time.

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Place your orders early as the supply never equals the demand.

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enables you to read Target at a distance of over 400 yards, therefore the problem of a FARM LEVEL with TELESCOPE at moderate cost has at last been solved. Voluntary letters from every State in the Union show the complete satisfaction it gives for all kinds of **DRAINAGE WORK, IRRIGATION, DITCHING, TERRACING** and every sort of farm work requiring a Level. GUARANTEED to be absolutely SIMPLE, ACCURATE, DURABLE and dependable in every respect.

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## For the Pacific Coast

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A High Calcium Lime. 98% Pure
The best for sprays. Prices right. Write us.

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# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Sores on Cow.

I feed my Jersey cow two pounds bran, two pounds alfalfa meal and two pounds middlings each day, I make two feeds of it, and feed it moistened. She is staked in a field of oat stubble for her hay. She gets plenty of stubble, but not much grain in this field. A month ago she apparently licked the hair off her belly in four spots right in line from the udder to the forelegs along the center; I made a paste of lime and water and applied and covered with a sack. The sores have dried up but a short time afterward the same condition appeared at the juncture of the udder and belly and also in the crevice between the forelegs and chest, also a little later, on her neck, and now around her teats on the udder and even on the teats there are numerous pimples that look like prickly heat. These places seem to itch and although I have applied the lime paste time and again, she constantly licks it off and then the spots that she can reach, become sore. Her milk supply is not regular.—W. C. D., San Jose.

I should suspect the character of the feed might have something to do with this cow's trouble. If the oat straw is coarse and brittle it is not easy of digestion and does not make long material that a cow can cud into a mass for chewing. If ten pounds of alfalfa hay could be substituted for the alfalfa meal it would be better. This alfalfa hay could be placed in a clean box and made wet, then covered with sacks over night to soak and swell a little to make it succulent. If this can not be done secure a few pumpkins, pig melons, or beets to add to the food, a load of corn stalks or something that can be moist. The cow should have abundance of water even to making her bran into a slop to produce milk on this dry feed. I never saw but one case like this. A neighbor had a fine Jersey cow for which he paid a large price. The local doctor, this was ten years ago, shared the prejudice against alfalfa. He told these people the baby would die if the cow was allowed to eat alfalfa in any form. The cow was staked on grain stubble and feed on middlings. The owner told me one day if I would like to have Bessie I could for she had broken out in sores and he was going to shoot her. I sent for her and she was a terrible looking object. She was put right on green alfalfa in a small lot. Each morning to a small amount of barley was added a tablespoonful of bisulphite of soda. The sores were washed with per-oxide of hydrogen and then dusted over with powdered charcoal. Corn silage and pumpkins were fed to her, all she would eat, and only two pounds of rolled barley was given each morning. In six weeks I was able to return her to her owner in perfect condition. They again tried to feed her according to the doctors orders and she became as bad as ever with running sores. As I was not a Jersey breeder I did not care to have her in the herd, so another man took her and after coming over to see how we had cured her up, repeated the treatment with the same good results. Add succulency and some long stuff to this cow's feed. Washing of the sores carefully should cure her up if she has not some chronic troubles within her blood. Try this bi-sulphite treatment for the blood at the same time.—M. E. S.

### Age of Walnut Trees.

I have opportunity to purchase a walnut grove in fairly good condition. Some trees show dead wood at the top and others are very thrifty. They are fifteen to twenty years of age, and I wish to know if their bearing life is almost over, or is the walnut a long lived tree?—C. J. E., Hynes.

This was referred to Mr. J. B. Neff of Anaheim, who writes:

There is no reliable information as to the life of softshell walnut trees on this coast, but it is reasonable to suppose they will live to a great age if the conditions are suitable. Trees are known in the south of France that are 300 years old and are producing as much as 400 pounds to the tree. These are roadside trees that have plenty of room. The best orchard that I know of was planted in 1879 and has been thinned out until the trees are now 55x65 feet apart. The trees are hardshells and are vigorous.

Walnut trees on good land should not be much closer than 60 feet apart, though if planted in 60 feet squares a tree may be planted and grown in the center of the square for the first 15 years, if the land is well fertilized.

### Sweet Potatoes—Peanuts.

How can I keep sweet potatoes through the winter? Should peanuts be harvested before the vines are dead, and how are they cured? Are the vines good feed?—A. B., Inglewood.

As to the storing and keeping of sweet potatoes, we re-print the following written by Mr. Lobingier in answer to a similar query about a year ago:

Any method that will keep the potatoes dry and at a temperature nearly uniform will succeed. In well drained sandy loam I have kept them perfectly in the ground where they grew. For a small quantity, I have been very successful in keeping them in perfectly dry sand in the barn. But no method known to me will keep over winter sweet potatoes that have been carelessly or roughly handled. They are very susceptible to bruising, and while it may not show at once, it will be very apparent before spring. They should be dug before frost has killed the vines, and handled as carefully as you would handle eggs. Allow them at least a day in the sun to dry before putting them away. It is a disputed question among growers whether it pays to store for a higher price—many are of the opinion that the risk from decay more than equals any advance in price.

Peanuts should be harvested before the heavy rains set in, so that they can be properly cured, which is usually done in the field. We do not think there would be any advantage in placing them in the shade. They are harvested in much the same way as the lima bean crop. The sled cutter takes off the tap roots underneath the surface of the ground. This loosens the soil and the nuts are practically all saved. The vines may be left in windrows 24 to 72 hours according to the weather. They are then piled in cocks about the size of the ordinary hay cock, each vine being lifted singly with fork and handled carefully so that the nuts do not drop off. Cure in cocks six to twelve days, after which the nuts may be picked off. Price for picking ranges from thirty to forty cents per sack holding about 40 pounds. The vines make an excellent feed for hogs and cattle, but are not considered so good for horses.


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When to be used for feed, they should be hauled in the morning or when fairly moist so that leaves will not drop off leaving only bare stems.

### Cover Crop.

What is the best cover crop for clay wash soil? I have walnut ranch at the foot of Rincon Mountain, with deep soil which I irrigate.—J. F. Tubbs, Carpinteria.

We do not think you could find anything better than the vetch or Canadian field pea, and if you can irrigate, we would suggest immediate planting. Fit the ground by irrigating heavily and then drill in the seed, leaving surface so that you can irrigate later if sufficient rains do not fall. If you plant the vetch, you will need to drill in about 40 pounds per acre between trees. Sixty pounds of the field peas would be required. Should you prefer fenugreek, which is hard to get and more expensive, you will find 16 pounds sufficient. Some prefer the ordinary native burr clover. For further particulars regarding green manure crops, we would refer you to the issue of September 9th which was almost entirely devoted to cover crops.

### Gum Disease.

I have several orange trees which have gum disease. I cleaned off the bark and applied mixture of neats foot oil, one quart, with two ounces of crude carbolic acid. Two of the trees died after the application, but others are doing well. Were trees killed by the disease or by the remedy applied? The gum is two or three feet above the ground.—Subscriber, Anaheim.

Gum disease is considered a purely physical trouble caused by improper soil conditions produced by soaking of heavy soil and formation of hardened case around the roots, thus preventing growth and proper nourishments of the tree. The only remedy in such a case is to correct the soil conditions, which may be done by cultivation and heavy mulching, or as is sometimes done, digging out the hard crust of soil and filling in with sand or sandy loam. Slitting of the bark has sometimes been practised and found beneficial. Description of this and similar diseases and remedies may be had by writing to the College of Agriculture, Berkeley, Cal. for Bulletin No. 200. It is not probable that the remedy you applied was the cause of the death of the trees. It was more likely the disease or condition itself.

### Naming of Apple.

Mr. N. S. Southmayd of Gardena, left with us for naming samples of apples which he said were of exceptionally fine quality. The trees had been sold him for Missouri Pippins. He wished to purchase more trees of the same variety as they were well adapted to the Gardena section. The tree is of spreading growth with long slender branches.

This apple was submitted to one of the best experts in Los Angeles, and he was unable to positively name it. It was then sent to C. H. Rodgers, President of the Pajaro Valley Apple Growers Association, Watsonville, who writes: "The apple which you sent for classification is the Arkansas Beauty. It is a delicious apple and a good keeper. To secure good color and high flavor, it should not be picked until the latter part of October."

### Canker-Worm Trap.

Would traps made of builders' tarred paper, or manila paper soaked in linseed oil, be a sufficient safeguard against the ascent of the female moth of the canker-worm into prune trees; the tarred paper to be used in lieu of usual traps of No. 16 mesh wire cloth, and tied around the trunks, cornucopia shaped mouth downward, somewhat as paper is used to prevent cut-worms from climbing into small fruit trees? That is, could the wingless moth climb around the slant of a paper trap so made, and would the tar or linseed oil be likely to preserve the paper from collapse in the rains during the period of oviposition, the object being, of course, to make a trap cheaper and more convenient to apply than the wire mesh?—Prune Grower, Morganhill.

The linseed oil would preserve the paper and prevent its collapse during rains. If you paint the lower inside edge of the paper, say a couple of inches wide, with tar or a mixture of rosin and honey or syrup applied hot, this will catch any insect that tries to cross it.—J. W. M.

### Grapes Not Fruiting.

We send you bunch of grapes showing only six well formed grapes, many others of all sizes from full grown down to the size of large pin head, with the greater number of the blossom stems blighted, growing no fruit whatever. Can you give cause and remedy?—Subscriber, Morganhill.

The grapes sent were a white variety, either Burgher or a similar fruit. They were referred to Mr. Mills of Marysville who writes as follows:

The description of the poorly formed bunch would indicate either Anaheim disease or mildew at an early stage checked by sulphuring. There are sometimes single vines in a vineyard that produce many small grapes. Had the subscriber given more particulars we could tell more about it. If his entire vineyard or a part of it is so affected, he should spray late in the winter with Bordeaux mixture and apply about a quarter of a pound of nitrate of soda per vine just before blooming time.

### PRIMER OF IRRIGATION.

A Primer of Irrigation by D. H. Anderson, Editor of Irrigation Age, issued by the Anderson Publishing Co., Chicago, is a valuable new book for every irrigator. The Cultivator has arranged to supply its subscribers with this book at $2.50 per copy including a year's subscription to the Cultivator. It contains twenty-two chapters of varied information; constitution of the soil, soil characteristics and uses, fertility and sterility, adaptation to various plants, origin and nature of alkali soils—how to reclaim—also practical methods of laying out land, different forms of irrigation, quantity of water required for various crops, how to measure water, etc.

It is a good book for the shelf of every irrigator.

The annual entomological inspection on plantations in the Hawaiian Islands was commenced last month. The cane borer which has proven a serious pest in the sugar plantations, has been less numerous this year than in the past.

Asotin county, Washington, claims to be the banner cherry producer of the world since her recent winnings at the A-Y-P Exposition.

# Classified Liners

Rates 1½ cents per word per issue No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

## MISCELLANEOUS.

THE ANCHOR EGG SEPARATOR works perfectly; no well regulated hotel or household can afford to be without it." So says Delmonico's Chef. Send ten cents or ten names of persons keeping poultry, and we will send one postpaid. Or for 25 names we will also send postpaid "THE POULTRY MANUAL" by those high authorities, F. L. Sewell and Ida R. Tilson, profusely illustrated. WEST COAST MILL CO., 705-709 So. Griffin Ave., Los Angeles, Cal.

A LABOR SAVER FOR WOMEN. Send 10 cents for three weeks trial. Electric Laundry Compound, washes clothes without rubbing. Saves time, labor, and clothes. No lime, lye or acids. Eight washings 25 cents. Money back if not satisfied. ELECTRIC COMPOUND CO., 823 S. Spring St., Los Angeles, Cal.

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HEALTH—LATEST SCIENTIFIC DISCOVERY. You positively can renew your youth and prolong your life. Our book "How to Live 100 Years" and 15 sheets of instructions for 50 cents. NATIONAL HEALTH LEAGUE, 545 Douglas Blk., Los Angeles, Cal.

A GOOD INVESTMENT. MOST MEN are working for money. The wise man makes his money work for him. Write for prospectus. COLUMBIA COMMERCIAL COMPANY, 204 East 9th street, Los Angeles, Cal.

## HORTICULTURAL PRINTING.

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SEND IN YOUR ORDERS FOR RUBber stamps, dies, stencils, etc. Catalogue on request. F. W. HOPKINS PTG., CO., 641 S. Main St., Los Angeles, Cal.

## POULTRY.

FOR SALE—RHODE ISLAND REDS (Tompkins Strain), Rose and Single Comb Black Minorcas (Northrup Strain), White Minorcas. Day-old chicks hatched to order, and eggs in season. C. U. CHAMBERLIN, Los Gatos, Cal.

A FEW CHOICE COCKERELS FOR sale from heavy laying trap-nested hens. For prices address MRS. A. J. BADGER, Oxnard, Cal.

PIT GAMES—SOUTHERN AND GRADE Japs. O. L. CRANE, Route 3, Santa Rosa, Cal.

## FERTILIZERS.

SULPHATE OF POTASH
$60.00 per ton.

For a short time we will sell Sulphate of Potash at $60.00 per ton.

This is the right time to apply it for maturing the crop and the new growth of wood.

This price won't last. Get your supply now from the Armour agent in your district.

THE ARMOUR FERTILIZER WORKS, Los Angeles and Colton.

## HARNESS.

THE MOST RELIABLE HARNESS manufacturers in San Francisco will make to your order any kind of harness you may want from the best stock, at wholesale rates, all goods guaranteed as represented, or money returned. We carry large stock of our make harness on hand for immediate shipment. Write for catalogue. LASTUFKA BROS. & CO., 1659-61 Market St., San Francisco, Cal.

## HONEY.

SAGE HONEY, GUARANTEED ABSOlutely pure. One 5 gal. can, crated, f.o.b., $4.25, two 5 gal. cans, crated, f.o.b., $8.00. HENRY E. HORN. Riverside, Cal.

## DOGS.

FINELY BRED PEDIGREED SCOTCH Collie puppies, perfectly marked. Also exceptionally handsome dog two years old. ELIZABETH CUMMINGS, Oxnard, Cal.

BLUE BLOODED ROUGH COATED Scotch Collie puppies, perfectly marked in sable and white. Stock workers a specialty. RANCHO CALAO, Mountain View, Cal.

## HOGS.

REGISTERED BERKSHIRE AND POland China hogs, both sexes. C. A STOWE. Stockton, Cal.

## RHUBARB.

FOR SALE—WINTER CRIMSON RHUbarb. Established roots, $5.00 a hundred. F. T. HAWLISH, Greenfield, Cal.

## BEES.

75 COLONIES BEES FOR SALE. Best hives, straight worker combs, full equipment of top bodies, comb honey supers and necessary implements. M. H. PHILLIPS, Glendora,

## FARM LANDS FOR SALE.

FOR SALE: 145 ACRES CHOICE Orange land; red soil; water at 20 feet; 1 mile from town site on S. P. R. R. in Tulare Co., in orange territory; $75 per acre; easy terms. Other lands near town site at $100, in 10 acre lots. Prairie lands on West Side in Fresno County not improved at $12.50 to $25 per acre, 160 acres or more. WM. PARAMORE, 433 Mason Bldg., Los Angeles, Cal.

WE SELL LAND. LOOK AT THIS. 100 acres, close in, well improved, $100 per acre, will be worth $200 in one year. We have other improved farms farther out $25 to $50 per acre. Inquire, PEARS & CHASE, Albany, Oregon.

LOCATE RIGHT FOR ORANGES; GET near one of the best paying groves in the state. Unimproved orange and olive land from $30 to $130 an acre. Also bargains in improved land. Water cheap and abundant. Write W. L. CULBERTSON, Exeter, Cal.

I OFFER TO LOCATE YOU ON HOMEstead or improvement plan, water sure, near lake, oil fields and railroad. No fee, only wages. One dollar for particulars. Level, valuable. JOE CLARK, Box 684, Coalinga, Cal.

I MAKE A SPECIALTY OF ORANGE and alfalfa ranches and exchanges. 826 Main St., Room 9, Riverside, Cal. N. R. BELL.

## MACHINERY.

FOR SALE—SECOND HAND WIND mills, tanks, pumps and engines at half price. Special this week: 10-in. portable wood-sawing outfit with 9-h. p. engine, complete, 25 cords capacity. A money maker for you. To close an estate. Must be sold this week, $350 for whole rig. Cost $800. Call immediately. DEMMITT CO., up stairs, 120 No. Main, Los Angeles, Cal.

FOR SALE—ALAMO GAS ENGINES. All sizes in stock. Come see them running. BAILIE & BRANDT COMPANY, 943 & 945 North Main St., Los Angeles, Cal.

FOR EXCHANGE—MOTORS AND Generators. We rent, sell and exchange. BAILIE & BRANDT COMPANY, 943 & 945 North Main St. Los Angeles.

FOR SALE—UNION GAS ENGINES. Have large stock. Price will suit you. BAILIE & BRANDT COMPANY, 943 & 945 North Main St., Los Angeles.

FOR SALE—RENT OR EXCHANGE, boilers and engines, gas engines, pipe and oil well casing, pumps, all sizes and makes; get our prices before you buy. A. CANNADY & CO., 691 N. Main St., Los Angeles, Cal.

FOR EXCHANGE—SMALL GASOLINE Engines. Need the room. Bargains. MACHINERY EXCHANGE, Main & Bruno Sts., Los Angeles.

## TREES.

FOR SALE—A SNAP. 4000 SWEET seedling orange trees for budding this fall, good healthy stock. Can remain in nursery where they now stand, also can arrange for the care. Price, $1000.00. Also a seed bed, the finest in the state, sour and sweet stock. 75,000 in the lot. Make me an offer. Address, C. W. WILHITE, Glendora, Cal.

FOR SALE—1500 EUREKA LEMONS, 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. B. WARNER, Santa Ana, Cal.

FOR SALE — STRONG OUTDOOR grown rooted cuttings. Send for 1-2-3 cent list. Other plants. Fine lot Blue Gums qt. tins—3 to 4 ft. GEM NURSERY, Los Gatos, Cal.

WRITE TO US FOR SPECIAL PRICES on first-class prune or peach trees, or berry vines. State number wanted. GRIDLEY COLONY NURSERY. Gridley, Cal.

## TREES WANTED.

WANTED TREES—A FEW THOUSsand apricots, peaches, pears, etc. IMPERIAL VALLEY NURSERY. Imperial, Cal.

## RARE PLANTS.

WILD PLANT IMPROVEMENT GARdens, Santa Ana, California, NEWTON B. PIERCE, Proprietor. Rare, choice ornamentals and new fruits from all lands.

## ORNAMENTAL NURSERYMEN

WANTED — COMPETENT NURSERYmen who thoroughly understand the growing and classification of and who are thoroughly familiar with all varieties of ornamental trees and decorative plants. Address "NURSERYMEN," California Cultivator.

## CATTLE.

SPECIAL — FOR SALE, HOLSTEIN bulls, two old enough for service and a number of yearlings. Also a few calves that are small enough to crate. Julianas, De Kols and all the strains for which this herd has been famous are represented. The only cows to hold World Records raised in the state were bred on this ranch. Same blood still represented largely in the herd. MINNEWAWA STOCK FARM, Fresno, Cal.

## HOMES FOR CHILDREN.

HAVE YOU A BOY? IF NOT, LET us send you one. We want country homes for boys of all ages. Arrangements to suit. CHILDRENS' HOME SOCIETY, 2414 Griffith Ave., Los Angeles, Cal.

"See the shadow the book throws across my waist? It's like the shadow caused by the metal burner or tank of your light—with this difference, I can take away the book and get direct, shadowless light. See the point!"
MORE LIGHT
—where more light is needed—that's what The Angle Lamp gives. It is oil lighting at its best with the smoke, odor and bother eliminated by new methods. It throws upon book or table a direct shadowless light delightful to read or work by.
THE ANGLE LAMP
resembles a handsome gas chandelier in its appearance and in its convenience. It is lighted and extinguished like gas. May be turned up full or turned low without odor. Safely filled while burning. Requires filling once or twice a week. Floods every corner of the room with a splendid light. Costs about 3 cents per week.
Made in 32 varieties, a style to suit every need and taste. Call or write for catalog.
Boesch Lamp Co. 1135 Mission St. San Francisco
Established 1869. Incorporated 1890.

# California Genuine Sardines

## Not a Substitute, but a Genuine Sardine

They have all the old time Sardine qualities. Delicious in flavor, a wholesome, nutritious food. You will prefer them to any you have ever eaten.

**PROFESSOR DAVID STARR JORDAN,** President of Leland Stanford University The leading authority on fishes of the Pacific Coast, writes of the California Sardines, in "Fishery Industries of the United States," 1894, page 569: "This species is everywhere known as the Sardine or by the Italians as Sardinea." It is in fact almost identical with the sardine of Europe.

### Your Only Protection

against substitution lies in becoming acquainted with our brands.

### Don't Ask for a Can of Sardines or California Sardines

But ask for any of the following brands and insist upon getting them:

### Put Up Only Under These Brands

| BRANDS | STYLES | BRANDS |
|---|---|---|
| Goldfish | Ravigote | La Rouchelle |
| Sunset | Le Croix | Mission |
| Senorita | Boneless | Sunset |

If your grocer does not carry them in stock write us.

**CANNERY, SAN PEDRO, CAL.**
The only Cannery of Genuine Sardines in America that is operated 12 months in the year in the same line of business.

**Five Colored California Post Cards Free**

**California Fish Co.**
116 Henne Bldg.
Los Angeles, Cal.

# SECURITY SAVINGS BANK

**Fifth and Spring Sts. Los Angeles, Cal.**

OLDEST AND LARGEST IN THE SOUTHWEST

**Capital and Reserve $1,350,000.00**

**Resources - - - $24,000,000.00**

**Over 52,000 Depositors**

SECURITY BUILDING Ground floor and Basement occupied by the Security Savings Bank and Safe Deposit Vaults.

**4% Interest on Savings Accounts**
And on Six Month's Certificates of Deposit

**3% On Special (Ordinary) Savings Accounts**
Which Accounts may be checked against without presentation of Pass Book. Interest is paid monthly on the minimum monthly balances.

**The Safe Deposit and Storage Department is the largest and best equipped in the West**


# Household Department

### THE DESERT SHOWER.

A cloud crept up o'er the desert;
And none was there to see;
To long for the spray on that desert way,
Or pray its waters free.
No herb lay parched in the burning
To crave the cooling shower;
No withered blade, to bless its shade,
No eager, upturned flower.

Beyond, in the land of verdure,
Broad fields all thirsty lay,
And they sent a cry to the arching sky
To swing the cloud that way;
"We have fruits and grain that languish;
The desert needs you not.
She will drink your rain and will nothing gain,
Cloud, shun the cursed spot."

The cloud swung low o'er the desert,
Nor heard the green field's call,
But upon the sand of the thirst-cursed land
It let its waters fall.
The sands, as the fields had uttered,
Drank deep of the potion cool,
Save one stony spot which drank it not
But saved a tiny pool.

Next day a fainting, thirsting man,
Lost on that desert plain,
Voiced to the air a woe-fraught prayer
Of agony and pain.
And lo! his prayer was answered,
For there, just at his feet,
His life to save, the boon God gave,
The pool of waters sweet.
—Sunset Magazine.

### IN THE INTERESTS OF TRUTH.

"I'M glad it's over," sighed the maid of honor. "Of course it's been lots of fun, but I'm tired enough to rest now. Summer weddings are so trying."

'She was a very pretty bride, wasn't she?" said the best man. "George is in luck."

"She always was the prettiest girl in our crowd," said the maid of honor.

"That's a matter of personal opinion," he said slowly. "Were you frightened when you walked up the aisle?"

"A little, but I was so busy wondering whether Marion's train would catch on something that I didn't realize that I was starting up the aisle until I was there."

"If that isn't like a woman!" he cried. "To think of a dress while taking part in such a solemn thing as a wedding!"

"I don't believe you were any better!"

"Oh, yes, I was!"

"I dare you to tell me of what you were thinking when you went up that aisle!" she said. "I warrant that you were just as frivolous as I."

"If I thought you'd hear me through I'd tell you," he said earnestly. "You've never given me a chance to say what I've wanted to say on a certain subject, you know."

She started to reply, but thought better of it, so he went on.

"When a man's in love with a certain girl he's very likely to think of her at a wedding," he said. "Therefore, the natural thing was for me to wish I were the bridegroom myself."

"I didn't know you cared so much for Marion."

"As much as what?"

"Wanting to be the bridegroom, you know. I'm sorry you take it so hard."

"You know very well what I meant. You're just plaguing me."

Oh, no, I'm not. I wouldn't for the world."

'Yes, you would! You take delight in making me miserable."

"If you're going to talk like that we'd better go where tne other guests are."

"I'm not going back yet," he said, masterfully. "If you go back alone it will look queer, so you'd better be good and listen."

"I may have to stay, but I don't have to listen."

"You can't help yourself. As I was saying, if a man thinks the world and all of a girl he naturally has her in mind when he's going up the alsle at another's wedding. I determined some time ago to make you give me an answer tonight, for you've played with me for weeks and I'm not going to stand it any longer."

"How fierce!"

"You've known a long time that I was in love with you and—"

"I'd like to know how I was supposed to know that. You never said a word to me about it."

"I don't know how you knew," he said, vaguely. "But you did. Girls always do. Besides, I was here often enough to give you a hint."

"Other people have been here, too."

"Oh, I know that only too well. That confounded Tucker—"

"He's a friend of mine, remember."

"That's just the reason I have no love for him. But that's neither here nor there. What I say is that I must have an answer from you at once."

"In books such a declaration is followed by the announcement that the hero is on the point of leaving for India or the Philippines."

"I'm not," he said, gloomily. "I'm not even going to have any vacation worth mentioning, while you are going away to be the beauty of several summer resorts and have all the fellows devoted to you."

"Just like the funny page in the paper? Surely you don't begrudge me so much joy."

"Not in the least, if you'll give a few minutes' thought to me once in a while. You see I— Well, hang it! can't let you go without knowing whether you care for me or not. What do you think about it, anyhow?"

She gave him a quick look. "I don't think," she said softly. "I know."

After a time she insisted that they must join the others.

"Tell me first," she said, "just what you were thinking when you went up the aisle?"

"I was wondering," he confessed, sheepishly. "why my left shoe squeaked while my right didn't."—Chicago Daily News.

### A JAP AD.

The following is a bona fide ad appearing in the Fresno Republican some weeks since. It sure is the genuine article and bears no mark of being the work of an imitator:

LOST DOG—Reward $5 to any one who finds a lost dog between Fowler station and Manakah, last night. Gray little female dog, two feet long, one foot high, two years old, had baby two weeks ago, has big wimple. Phone China 762. Matsuyama, 935 F St., Fresno.

## CARE OF LACE CURTAINS.

EVERY precaution should be taken to keep the curtains clean as long as possible, as it is the washing that wears them out much sooner than the using. Your lace or muslin curtains will keep clean twice as long if you will lift the curtain poles from the brackets and lay them, curtains and all, in another room when you are about to sweep, as no dust will settle on them.

Lace curtains that are only slightly soiled can be freshened by soaking them for two hours in gasoline, but the only safe place to use it is out of doors. Shake and brush the curtains carefully, then put them in a small tub and pour enough of the fluid over them to saturate them thoroughly, then cover the tub closely to keep the fluid from evaporating. Hang them over the line and press carefully, and if they have become flimsy, they should be gone over with a cloth wrung out of thin starch water and pressed as fast as dampened.

When the curtains are soiled enough to be washed, they can be cleaned with very little rubbing, by shaking them well to remove all dust and then rinsing them through clear warm water. When they are removed from this water, put them in a tub of warm, soft water in which a small cup of kerosene oil has been stirred and let them remain over night. In the morning squeeze as much of this water out as possible and rinse them through clear water and then wash them through a strong hot pearline suds by lifting up and down and pressing and squeezing between the hands and they will need no boiling unless they were very soiled.

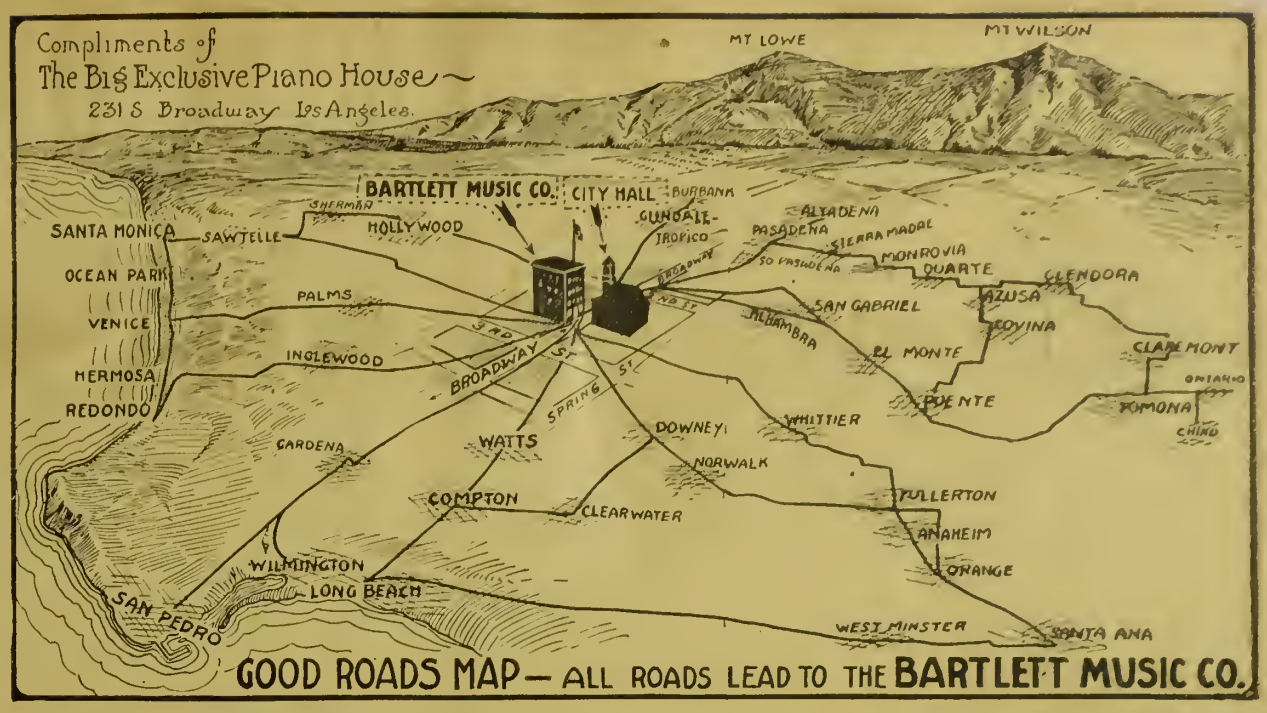
The finest curtains can be washed in this way without any injury to the fabric, and if the work is carefully done, the curtains will come through the process looking beautifully clean and fresh.

To make the curtains a pretty cream color, dissolve a tablespoonful of yellow ochre in a little water and add to the starch, being careful that it is quite smooth, and also add a little gum arabic which has been dissolved in warm water to the starch. This quantity of ochre is enough for one pair of lace curtains, and they never fade when colored in this way.—M. H.

## TO SAVE CONFUSION WHEN MOVING.

If you are planning to move, prevent confusion in placing furniture in the new house in the following manner: In leisure moments prepare a large card for each room, to be tacked to the outside of the door-frame on moving-day. Assign a number and mark a card for each bedroom. Letter the other cards with the names of the other rooms. Then prepare a number of smaller tags, attaching a string to each (or use baggage-tags). Mark enough to put on all furniture, trunks or boxes with the name of the room into which each is to be put. Show your movers the arrangement, and there will be little or no error in placing, while no valuable time and strength will be lost in directing.—Woman's Home Companion for October.

"Give men their gold and knaves their power;
Let fortune's bubbles rise or fall;
Who sows a field or trains a flower,
Or plants a tree is more than all."


THE SAVINGS AND LOAN SOCIETY
101 MONTGOMERY ST.
SAN FRANCISCO

Many people postpone opening a savings account until they have a round sum. This bank specially invites small deposits and is daily opening a large number of accounts of one dollar and upwards.

**Paid Up Capital $1,000,000.00**

THE OLDEST SAVINGS BANK IN CALIFORNIA

**Wireless Telegraphy** Now is the time to engage in the study of this new science. 1,000 operators wanted to fill positions created by U.S. government action. Salary of trained operators ranges from $15 to $40 per week.

**The Wireless Institute of California**
is the best equipped wireless school in the world for teaching this science. We are located so that our high power station is in daily conversations with all stations on the Pacific Coast. R. R. Commercial School of Telegraphy owned and operated in connection with us. We can qualify you for a position anywhere. Young men and women write for descriptive circulars.

**WIRELESS INSTITUTE OF TELEGRAPHY**
Official Training School for Wireless Telegraph Companies
Central Trust Bldg., Van Ness Ave. cor. Golden Gate
SAN FRANCISCO, CAL.

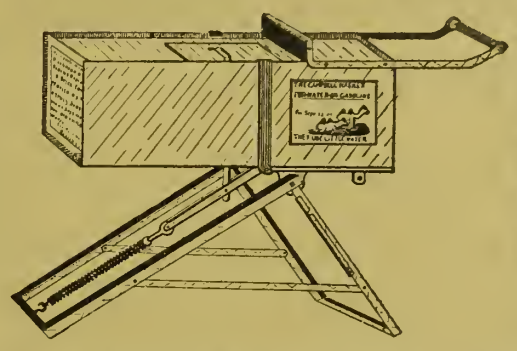
**$550** will buy the best **88-NOTE** Player on the market. Crown & Concord Pianos. 10-in. Disc Records 25c.
PETER BACIGALUPI & SONS, Phonographs & Pianos
941 Market Street, . . . San Francisco

**Northwestern Pacific**
Schedule Effective September 15, 1909
UNION FERRY DEPOT San Francisco

| Leave | VIA SAUSALITO | Arrive |
|---|---|---|
| 7:45a | Petaluma, Santa Rosa, Healdsburg, Cloverdale, Ukiah, Willits, Sherwood, *Sebastopol, *Guerneville | 7:35p |
| 8:15a | Pt. Reyes, Monte Rio, Cazadero | †7:05p |
| 8:15a | Sonoma and Glen Ellen | 6:05p |
| ‡8:45a | Petaluma, Santa Rosa, Guerneville | ‡7:05p |
| §2:45p | Pt. Reyes, Monte Rio, Duncan Mills | ‡7:35p |
| 3:15p | Petaluma, Santa Rosa, Healdsburg, Cloverdale, Ukiah, Guerneville, Riverlanding, Sebastopol | 11:05a |
| 4:45p | Sonoma, and Glen Ellen | 9:35a |
| 5:15p | Petaluma and Santa Rosa | 8:35a |

**ELECTRIC SUBURBAN VIA SAUSALITO**
**Sausalito, Mill Valley, San Rafael**—Daily every 30 minutes from 6:45 a. m. until 9:45 a. m.; hourly until 2:45 p. m., then 3:15 p. m. and every 30 minutes until 7:45 p. m., then 9:00, 10:35 p. m. and 12:01 a. m. (On Sundays in addition—Every 30 minutes from 9:45 a. m. to 3:15 p. m., excepting 2:15 p. m.)
**Fairfax**—Leaves †6:45, 7:15, 7:45, 8:15, 8:45, 9:15, 9:45, ‡10:15, 10:45, ‡11:15, 11:45, a. m.; ‡12:15, 12:45, ‡1:15, 1:45, 2:45, 3:15, 3:45, 4:15, 4:45, 5:15, 5:45, 6:15, †6:45, 7:45 p. m.
**San Quentin via San Rafael**—Leave 9:15 a. m., 1:45 p. m.
**Tiburon and Belvedere**—Week days, 7:30, 9:00, §11:45 a. m. (§12:45 p. m. Saturdays only), 3:30, 5:30 p. m. Sundays—7:30, 10:00, 11:00 a. m.; 12:30, 3:30, 5:30 p. m and §12:01 a. m.
*Sunday arrive 7:05 p. m. †Except Sunday. ‡Sunday only. §Saturday only. §Via Sausalito.
Pacific Transfer Company's agents are authorized to check baggage direct from residences.

# CUT OUT YOUR LAUNDRY BILL
## A Campbell Washing Machine

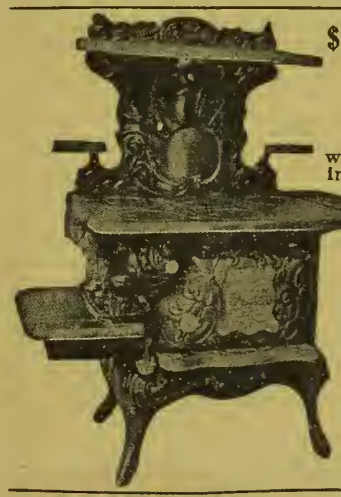


will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

**FOR WATER OR GASOLINE**

Circular on application. **For Sale by**

**Boesch Lamp Co.**
**1135 Mission St.,** Near the Post Office, **San Francisco, Cal.**

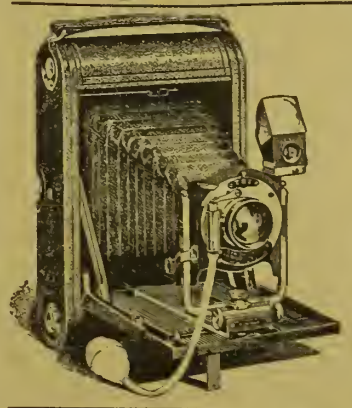


**$16.30 buys this handsome six-hole Nickel-Trimmed Cast Range direct from the Manufacturer**

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 161-C. A postal card will do it. Don't buy until you get it.

**The Wm. Peck Co.**
**2803 Folsom Street, San Francisco, Cal.**



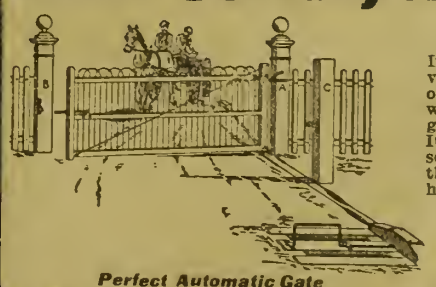
# Kodaks

Developing, Printing
Enlarging, Supplies.

**Earl V. Lewis Co.**
**226 W. 4th, Los Angeles, Cal.**

Mail Orders Solicited

**20th Century Automatic Gate**
*Always in Order*



*Perfect Automatic Gate*

In general use for motor as well as horse drawn vehicles. Opened or closed without assistance or stopping. The gate can be placed at any driveway entrance. The machinery is all above ground, and so simple it never gets out of order. It will last a lifetime, and usually pays for itself, in time saved, within a year. It adds to the beauty, value, convenience and safety of any home. Address

***A. J. Bloom***
***Petaluma, California***

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

Los Angeles, Oct. 13, 1909.

### Butter.

A firm condition prevails on the butter market and a slight increase in quotations is noted especially on extra.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

Creamery per roll .....70@75
Dairy per roll.....32
Eastern Creamery per roll .....70
Cooking .....27
Ladles .....26

### Cheese.

Anchor large .....20
Northern fresh .....18
Young America .....21
Domestic Swiss .....21@23
Imported Swiss .....31@32

### Eggs and Poultry.

Eggs are in strong demand and Easterns are readily picked up. Prices only slightly advanced.

Paying price f. o. b. L. A. is:

Eggs .....43@47
Case count buying price.....37@38
Eastern fresh .....34
Storage .....32
Northern, candled .....37
Northern, case count.....35

Dealers pay for live poultry f. o. b. L. A.

Hens per pound.....14@16
Stags and old roosters .....7@8
Fryers 2 to 2¾ lbs.....18@19
Broilers 1¼ to 2 lbs.....18@20
Roasters 3 lbs. and up.....18@19
Turkeys .....20@24
Geese .....10@12
Ducks .....10@12
Squabs .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds .....7½
Prime steers .....4@4¼
Helfers .....3½@3¾
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.25@3.50
Wethers .....4.50@5.00

### Potatoes.

Wholesale prices are:

Yellow sweets per ctl.....1.25@1.50
Red Sweets .....2.00
Burbank local .....85@1.10
Highlands .....1.00@1.25
Salinas .....1.60@1.65
Lompocs .....1.50@1.60

### Onions.

Wholesale quotations:

Silverskins, local .....1.00@1.10
Northern Yellow Danvers.....1.25@1.35
Australian Browns per sack..1.25@1.35
Bermudas .....75@1.00
Garlic .....7@8

### Vegetables.

Artichokes locals .....75@85
Beets, doz. bunches .....15@20
Beans string .....5@6
Beans Wax .....4@5
Beans Limas .....4@5
Brussels sprouts per lb. ..... 9
Bell peppers .....2
Cabbage, per sack .....1.00@1.35
Celery per crate.....1.50@2.00
Chili per lb .....2
Cucumbers per box.....25@40
Cauliflower per doz .....1.25
Carrots per doz. bunches .....15@20
Corn per box.....30@40
Egg plant per lb.....2@3
Green onions per doz bunches..20@25
Hubbard squash per lb.....1½
Summer squash per box.....20@25
Lettuce choice .....85@1.00
Leeks .....35@40
Mushrooms, basket .....3.00
Oyster plant .....20@25
Okra per lb. .....3@4
Peas per lb. .....3@4
Parsley per doz. .....20@25
Parsnips .....15@20
Radishes per doz.....20@25
Rhubarb, No. Strawberry ....1.75@2.00
Rhubarb, crimson winter....1.00@1.25
Spinach per doz. .....15@20
Turnips doz. bunches .....20@25
Tomatoes lugs .....30@40
Water cress .....20@25

### Citrus Fruits.

Valencias .....1.50@3.00
Grapefruit .....1.75@3.25
Lemons, halves .....2.00@2.25
Limes, halves .....1.50@2.00

### Fresh Fruits.

Wholesale prices on the market are:

Alexanders .....1.40@1.75
Bellefleurs .....1.15@1.25
Fall Pippins .....1.15@1.25
Pearmains Red .....1.25@1.35
Greenings .....1.15@1.25
Arkansas Beauties .....1.25
Smith Cider .....75
Casabas per crate .....1.25@1.50
Cantaloupes Jumbos .....2.00@2.50
Christmas melons .....2.00
Figs .....60@80
Grapes lug box .....50@90
Persimmons lb. .....8@10
Peaches, per bx. Salaways.....35@40
Pears Bartletts lb .....5
Plums .....1.00@1.25
Pomegranates .....1.00@1.25
Quinces .....1.00@1.25
Roselle lb. .....10
Raspberries .....7@8
Blackberries .....6
Strawberries .....8@9
Watermelons per lb. .....1@1½

### Dried Fruits.

Wholesale prices are:

Apricots .....8@12
Evap apples fy per lb. .....10
Figs box .....1.25
Peaches .....5@7
Pears .....8@9
Plums pitted .....7@8
Nectarines .....9@10
Prunes .....4½@8

### Beans Dried.

Wholesale prices are:

Limas per ctl .....4.50
Pink No. 1 .....3.85
Black eyes .....4.00@4.25
Lady Washington .....4.00
Small White .....4.75@5.00
Garvanzas .....4.00@4.50
Lentils .....7.00@8.00

### Nuts.

The following walnut prices are not the wholesale, but car lot quotations established by the walnut association.

No. 1 soft shell .....11½
No. 1 hard shell .....11
No. 2 soft shell .....7½
Almonds IXL per lb. .....15@17
Pecans polished .....15@16
Peanuts California .....5
Peanuts Eastern .....7

### Honey.

Wholesale quotations:

Extracted water white .....7½
Extracted Light Amber .....6½
Comb Water White .....16
Comb, white .....14
Beeswax .....25

### Hay.

New Barley hay .....8.50@14.00
Alfalfa, local .....11.00@12.00
New alfalfa Imperial .....10.00@11.00
Northern .....10.50@12.00
Wheat hay .....10.00@12.50
Tame oat .....10.00@15.00

### Grain.

Wholesale selling price f. o. b., Los Angeles:

Wheat new per ctl .....1.90@1.95
Kaffir corn .....2.00
Corn .....1.85@2.00
Egyptian corn .....1.80
White oats .....1.90
Seed Rye .....2.10

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

Cracked corn .....1.85
Cracked wheat .....2.10
Shorts .....1.85
Bran .....1.60
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....2.50
Feed meal .....1.85
Rolled Barley .....1.50

## San Francisco Markets

SAN FRANCISCO, Oct. 12, 1909.

### Butter.

A very firm condition prevails on the market and a half cent in advance of quotations is freely offered.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

California extras per lb. .....37½
Cal. firsts .....31
Californa seconds .....28½
Storage extras .....30

### Cheese.

California flats .....14@16
Cal. Young America fy .....15@17
Young American Oregon fy .....17

### Eggs and Poultry.

Eggs have taken a strong advance, 3½ cents being noted on Monday, but slight selling at the increased quotations.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras .....48
Fresh ranch extras .....56½
Firsts .....46
Seconds .....30
Storage .....31
Seconds and thirds .....24@30

Hens per doz .....5.00@10.00
Roosters per doz .....4.00@10.00
Fryers per doz .....5.50@6.50
Broilers .....3.00@5.00
Geese per pair .....$1.50@2.50
Ducks .....4.00@8.00
Turkeys .....20@25
Pigeons young .....1.00@2.50

### Live Stock.

San Francisco prices gross weight:

Steers .....2¾@4⅜
Cows and heifers .....2@3⅜
Hogs .....4½@7¼
Calves per lb. .....4@5¼
Milk lambs .....5¼@5½
Wethers No. 1 .....4½@4¾
Ewes No. 1 .....3¾

### Potatoes.

Wohlesale market quotations:

River Whites crates .....55@65
Salinas .....1.25@1.40
Oregons .....1.00@1.10
Sweets .....1.60@1.70

### Vegetables.

Wholesale quotations:

Asparagus per box .....50@1.00
Bell peppers per box .....40@50
Cabbage per box .....2.00@2.25
Cauliflower doz. .....75@1.00
Carrots per sk .....65@75
Cucumbers per box .....30@50
Celery, doz. .....25@40
Chili peppers per box .....40@50
Corn per sk .....1.25@1.50
Egg plant per box .....35@50
Green peas per lb. .....4@5
Okra .....35@50
Onions green per box .....50@60
Rhubarb per box for bay ....1.25@1.50
Squash per box .....35@60
String beans .....2@3
Tomatoes .....25@40
Wax beans .....3@4
Lima beans .....5@6
Garlic .....4½@5

### Onions.

Yellow onions .....70@80

### Citrus Fruits.

Valencias .....2.50@3.50
Grapefruit .....1.00@3.25
Lemons .....1.50@4.50
Limes .....5.50@6.50

### Fresh Fruits.

Bellflowers .....65@1.50
Figs blk box .....25@40
Grapes seedless .....50@65
Tokays .....40@50
Malagas .....50@65
Rose of Peru .....50@60
Cornichon .....60@70
Muscats .....50@65
Isabellas .....65@75
Zinfandel and wine grapes per ton .....$8.00@15.00
Peaches per lug box .....60@75
Plums boxes .....50@65
Pears Bartletts .....75@2.00
Cantaloupes .....75@1.00
Nutmegs per box .....35@75
Pears box .....60@1.50
Pomegranates .....50@1.50
Quinces .....75@1.00
Huckleberries per lb. .....10@12½
Raspberries per chest .....5.00@6.00
Strawberries per chest .....4.00@5.00
Watermelons per doz .....1.25@2.00

### Dried Fruits.

Santa Clara .....2¾@3
1 cent premium for larger sizes.
Apricots per lb. Royal .....9@10½
Apricots Moorpark .....11@12½
Peaches—Choice....5; Fancy .....7
Apples evap .....6½@8½
Pears .....6@8
Figs .....3@4
Nectarines .....5@6
Plums .....7@8
Apples .....6½@8½

1909 crop, f. o. b. Fresno, 1-lb. cartons—Choice, 4½c; Fancy, 5¼; Seedling Stock, 2½c, sweat-box; London Layers, 2-crown, 90c; do, 3-crown, $1; Fancy Clusters, $1.25; do. Dehesa, $1.50; do. Imperials, $1.75; Loose Muscatel, 2-crown, 3c; 3-crown, 3½c; 4-crown, 4c.

### Nuts.

Walnuts soft shell No. 1 .....12½
Walnuts S. S. No. 2.....7½
Walnuts, hard shell .....11½
Almonds '09 N P U .....12¾@13¼
Almonds '09 nonp .....14½
Almonds '09 I X L .....13½@14
Pecans .....15@17
Chestnuts .....14@15
Peanuts .....5@6
Pine nuts .....22½@25

### Beans Dried.

Limas .....4.00@4.10
Pink .....3.15@3.25
Small white .....4.25
Large white .....3.25
Black eyes .....4.00
Red kidneys .....4.00
Garvanzas .....3.00@3.10
Bayo .....4.00
Horse beans .....2.00
Cranberry .....4.25@4.50

### Hops.

Hops 1909 crop .....22@25½
Hops 1908 crop .....16@18
Old .....10@12

### Honey.

White comb .....14@15
Light Amber .....10@12
Extracted W W .....7½
Extracted light amber .....6½@7
Beeswax per lb .....25@29

### Hay.

Scott, Magner & Miller say:

Arrivals of hay in San Francisco for the week ending today have been 3500 tons. This shows somewhat less than we have been receiving for the last few months. However, it is a large amount, comparatively, to handle here at this time on account of the market having been overburdened with the large consignments of hay that have been rushed in here during the last few weeks.

The rains that we have had, did considerable damage to hay that was piled in the fields, and somewhat of this hay has been shipped in to San Francisco, and has been handled with considerable difficulty and dissatisfaction. There is not much horse hay left in the fields, and we expect to be entirely cleaned up very shortly.

Arrivals of alfalfa hay have been heavier, the demand very moderate, and prices somewhat easier. Damaged alfalfa hay will prove a heavy drag on the market, and difficult to dispose of at satisfactory figures.

This week's quotations are:

Choice wheat hay .....1900@20.00
No. 1 wheat or wheat & oat 17.00@18.00
No. 2 wheat or wheat & oat 14.00@15.00
Choice tame oat .....16.50@17.50
Other tame oats .....14.00@15.00
New crop wild .....11.00@15.00
Stock hay .....8.00@9.00
Alfalfa .....10.00@13.00
Straw .....55@65

### Grain.

Wheat No. 1 .....1.70@1.75
Barley .....1.30@1.40
Oats white .....$1.55@1.60
Oats gray .....1.55@1.60
Rye new crop .....1.70@1.75
Corn Egyptain .....1.60@1.65
Cal sm round .....1.70@1.75
Alfalfa seed, Cal. 16@18
Mustard brown .....3¾@4½
Millet .....2½@3
Flaxseed .....4
Broom corn seed per ton .....23.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton ....38.00@39.00
Cracked corn per ton .....39.00@40.00
Ground barley per ton ....29.00@30.00
Rolled oats per ton .....37.00@38.00
Oil cake per ton .....38.50@40.00
Cocoanut cake per ton .....25.00
Middlings .....36.00@37.50
Mixed feed per ton .....28.00@32.00
Shorts .....31.50

## Citrus Market

LOS ANGELES, Oct. 13, 1909.

Oranges are commanding a very slight advance in price though the principal feature in the market is a stronger tone which more quickly cleans up the various offerings. Another two weeks will see the entire Valencia output cleaned up.

Tulare county navels are already coloring and it is thought a good showing of Thanksgiving fruit may be made, at least the season is considerably in advance of last year. Sizes now promise to be good.

The lemon market is still exceptionally strong. Big prices are being commanded and every offering is quickly picked up. Shipments are very light.

### SHIPMENTS.

Total shipments to date this season are 37,498 cars, of which 31,434 were oranges and 6,064 lemons.

NEW YORK, Oct. 8.—Five cars oranges sold. Market firm on good stock. Weather clear and warm.

VALENCIAS—
Aurora, E. Peycke Co.....2.70
Climax, E. Peycke Co. .....2.05
Old Mission, Chapman .....4.95
Golden Eagle, Chapman .....3.10
Lone Palm, McG. and Willard.....3.25
Tourist, Spence F. Co. .....2.75
Blue C., Covina Ex .....2.70
Cougar, Covina F. Ex. .....2.15
Stag, A. C. G. Ex .....4.80
Pointer, A. C. G. Ex. .....2.50
Hunter, A. C. G. Ex. .....2.50

PHILADELPHIA, Oct. 8.—Four cars valencias sold.

VALENCIAS—
Carmencita, Fullerton .....3.55
Old Oak, Tustin P. Co.....2.90
Puck, F. H. Speich .....2.75
Colombo, Fullerton .....2.90
Lucky, Tustin P. Co. .....2.50
First American, Randolph F. Co...2.35

BOSTON, Oct. 8.—One car sold. Weather favorable. Market is very strong.

VALENCIAS—
Pointer, A.C. G. Ex. Azusa.....3.20

PITTSBURG, Oct. 8.—One car sold. Market fairly steady on oranges. Weather favorable.

VALENCIAS—
Golden Orchard, Ind. F. .....2.50
Violet, D. M. Duarte .....2.55
Mtn. Side .....2.20
Jasmine, D. M. Duarte .....2.25

ST. LOUIS, Oct. 8.—Two cars sold. Weather favorable. Market very strong on lemons.

VALENCIAS—
A. A. A. A. Keen & Sons .....2.10
Hunter, A. C. G. Glendora.....1.90
Pointer, A. C. G. Glendora .....2.30

CLEVELAND, Oct. 8.—One car valencias sold. Market steady. Cool.

VALENCIAS—
Golden Rule, Riv. Ex.....2.60
Golden .....2.10

CINCINNATI, Oct. 8.—One car sold. Cool. Market firm on good fruit.

VALENCIAS—
Lincoln, A. H. Casa Blanca.....2.30
Navajo .....1.60

NEW YORK, Oct. 11.—Thirteen cars oranges sold. Market strong and active, prices higher. Clear and warm.

VALENCIAS—
Pointer, A. C. G. Ex.....3.30
Hunter A. C. G., Ex. .....2.45
Butterfly, Covina Ex.....2.85
Old Oaken Bucket, Covina Ex.....2.35
Lincoln, A. H. Ex. .....2.65
Sweetheart, A. F. Ex.....3.35
Eagle, A. F. Ex.....2.45
Yankee Doodle, A. F. Ex.....1.95
Orchard, National O. Co.....3.75
Standard, National Orange Co.....2.70
Pilgrim, R. J. Richardson.....3.55
Buena, R. J. Richardson.....2.90
Plain Ends, R. J. Richardson.....2.30
Lone Palm, McGowan & Willard...3.30

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Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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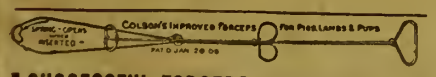


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A. G. COLSON, No. 10 Sixth Ave., Des Moines, Iowa


The Fresno chamber of commerce exhibits a sweet potato weighing twenty-five and a half pounds.

Tourist, McGowan & Willard.....2.50
Old Mission, Chapman.....5.70
Old Mission, Chapman.....4.40
Golden Eagle, Chapman.....3.10
Lion Head, I. L. Lyon Sons.....2.75
Tiger Head, I. L. Lyon Sons.....2.20
Aurora, E. Peycke Co.....3.20

BOSTON, Oct. 11.—Three cars sold. Market firm on good stock.
VALENCIAS—
Pampas, S. T., Anaheim.....3.05
Orchard, National Q. Co.....3.95
Papyrus, S. T., Anaheim.....2.65
Standard, National O. Co.....2.95

CLEVELAND, Oct. 11.—One car Valencias and one car lemons sold. Market steady on valencias, very strong on lemons.
Lemons—Coyote, O. K. Ex. ....$3.60
Valencias—Tiger, S. B., Colton,.$2.40

ST. LOUIS, Oct. 11.—Cold. Market is weak on Valencias. Two cars sold.
VALENCIAS—
Greyhound, S. A. Ex.....2.15
Pointer, A. C. G., Glendora.....2.20
Hunter, A. C. G., Glendora.....2.00

PITTSBURG, Oct. 11—Three cars sold. Market firm on good stock valencias. Raining.
VALENCIAS—
Red Globe, Riv. Ex.....2.20
Lincoln, A. H. Casa Bianca.....2.20
Cal. Orange, Riv. Ex., Riv.....1.75
Grapefruit—Victoria, seedless, $1.35

CINCINNATI, Oct. 11.—Cool. Market steady. One car of valencias sold, also one car of Florida oranges—the Florida Brights, averaging $1.95 per box.
Valencias—Searchlight, S. S. Orange, $2.50.

PHILADELPHIA, Oct. 11.—Six cars Valencias and one car lemons sold.
VALENCIAS—
Squirrel, A. H. Prenda.....2.30
Victoria, A. H. Casa Blanca.....2.60
Pansy, Colton, O. G. Assn.....3.15
Redlands Best, Mutual O. Dist. ...2.80
Victory, C. C. U.....2.45
Pride .....2.30
Palm Tree, A. H. Prenda .....1.95
Navajo, A. H. Casa Blanca.....2.30
Golden Orchard, Ind. F. Co.....2.95
Golden Strand .....2.70
Mountain Side .....2.40
Dixie, C. C. U. .....2.10
Lemons—Bridal Veil, Limoneira Co., $4.00.

# Veterinary

Answers in this column by Dr. R. T. Whittlesey, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Sore On Leg.

Sore started under fetlock on hind leg about two months ago and has spread until leg is a raw sore from hoof to ankle almost all the way around. Leg has swollen to a little above the hock and I am unable to stop spreading. How can I treat it?—W. T., Buttonwillow.

I think it has spread from the use of too strong medicines, like a strong solution of carholic acid. My advice is to use the sulphur-arsenical ointment advertised in connection with this column, hut if you do not want to go to any expense, try a saturated solution of sulphate of copper and water. Wet a pledget of cotton large enough to cover the sore and hind it with a long roller bandage, changing once daily.—R. T. W.

### Wind Gall.

Can you suggest anything to reduce win gall on horse's knee?—W. H. C., Ramona.

These wind galls are filled with fluid, and there are several methods of treatment. Injections of iodine, painting with iodine, and bandaging snugly, sometimes reduce the enlargement. It may also be punctured with a hot sharp pointed iron. The best treatment for you to follow is probably to paint with iodine and bandage with dry cotton.—R. T. W.

### DR. WHITTLESEY'S VETERINARY REMEDIES.

These are not ordinary mixtures but are from well tried formulas, used in an extensive practice in Southern California for nearly a quarter of a century. Dr. Whittlesey's Sulphur Arsenical Salve for deep fistulous or ordinary chronic, indolent sores such as, "Poll Evil," "Fistulas," "Quitters," "Thrush," "Scratches," "Warts," "Collar sores" or "Sit-fasts," $1.00 per package postpaid. Printed directions. Dr. Whittlesey's Antiseptic Healing Powder forms a coating over raw surfaces, excludes air, flies and floating germs. Makes a cheap and convenient dressing for the many sores that occur to stock on the ranch. $1 full pound can postpaid.

DR. R. T. WHITTLESEY.
Veterinary Hospital, 714 East Seventh St., Los Angeles, Cal.

# Business Notes

### GREAT FAITH IN ABSORBINE.

Another example of what my customers think of my remedy for use on blemished horses is found in the following letter, received under date of March 19th, 1909, from E. S. Jenkins, Center Point, Ind. He writes: "Have been using your ABSORBINE for two years with great success for contracted tendons, lumps, swellings, etc. Had a horse that had been lame for 18 months with strained tendons of the left leg, and two and one-half bottles of ABSORBINE cured him. I have great faith in ABSORBINE for such cases as I mentioned. Have recommended its use to many and have aided the druggist in building up a pretty fair sale of it in our little town. I don't deserve any praise for this, for I feel that I owe it to the medicine to tell my friends of its merits." You would find ABSORBINE equally beneficial and, if you do not already have one of my free booklets, write at once. You can procure the remedy at your druggist's or sent postpaid upon receipt of $2.00.

W. F. YOUNG, P. D. F.,
244 Temple Street, Springfield, Mass.

### MALTHOID ROOFING.

The Paraffine Paint Co. of San Francisco with branches at Oakland, Seattle, Tacoma, Spokane Portland and other cities, has issued a couple of new booklets which are little works of art. One of them is filled with illustrations of buildings at the A.-Y.-P. Exposition at Seattle. These buildings were all covered with malthoid roofing and it is a wonderful endorsement of that particular brand of roofing to see all these beautiful buildings which it covers. The other booklet is a larger one and is filled with illustrations of some of the largest buildings in the city of Los Angeles which have also been covered with malthoid. Amongst these buildings are not only some of the highest skyscrapers, but some of the most attractive residences as well.

Malthoid roofing has been on the market for years, and its manufacture has been encouraged by a rapidly increasing demand—a demand from men in the trade—contractors, builders and owners—the very men who would be the first to reject a poor roofing, and that even more quickly than they would praise a good one.

### WONDERFUL WATER.

Available water is at times worth its weight in good coin. The farmer, the gardener and the worker everywhere need it. For artificial irrigation as well as for pumping and for sinking deep wells and for mineral prospecting, the machinery and equipment of the American Well Works, Aurora, Ill., is second to none. For handling water on a large scale their centrifugal pumps are unequaled. Parties interested should write for special particulars suggesting the name of this paper as advising it to the American Well Works, Aurora, Ill., who will furnish free a large illustrated catalogue of well and pump supplies.

The G. & C. Merriam Company of Springfield, Mass., have just issued Webster's New International Dictionary, based on the International of 1890 and 1900. The revision has been so radical and complete as to constitute a new book. The work has been in active preparation for many years, by a large staff of experts, assisted by the contributions of eminent specialists, under the general supervision of Dr. W. T. Harris, recent U. S. Commissioner of Education.

The title-words in the vocabulary are more than doubled in comparison with the old International, now exceeding 400,000. The number of illustrations is increased to oved 6000. The book contains more than 2700 pages. But the publishers desire to emphasize the quality rather than the quantity of the work, calling attention especially to the thorough scholarship in all departments and the fullness of information under important titles. By igenious methods of typography and arrangement, the increased amount of matter is contained within a single volume, not perceptibly larger than its predecessor, and no less convenient for the hand and eye.

### TAFT OPENS DAIRY SHOW.

President Wm. H. Taft has accepted the invitation of the National Dairy Show Association and will open the hig ten day exposition of the allied dairy interests in the Auditorium, Milwaukee, Wis., Thursday Evening, Octoher 14, by pressing a button in the El Toro Hotel, Grand Canyon, Colo., which will set the machinery in motion. Accompanying the signal which will open the fourth annual dairy show will come a message to the dairy farmers of the United States.

A number of farmers near Clayton and in the Ygnacio Valley are appealing to the board of supervisors of Contra Costa county to abate the nuisance caused by dust from the cement factory which is proving very injurious to a large fruit growing section.


FOR SALE

20 CARLOADS OF MERCHANT NEW PIPE

Galvanized and Black—All Sizes

Just arrived from the mills. We are offering this pipe at the lowest prices obtainable on the Pacific Coast. Write or telephone for quotations. Call and inspect the stock. We can cut pipe to any measurement you want. Our carload brass valves just arrived from one of the largest brass works in the East. All first-class new goods. Hose bibb, garden valves, angle valves and globe valves. Two carloads oil well casing, 11⅝, 9⅝, 7⅝, 5⅝, 4, 3½, 3¼ and 3-in casing.

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Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to Petaluma, Sonoma Co., Cal.

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Thoroughbred Berkshire Boars and Sows



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Please read the headline over again. Then its tremendous significance will dawn upon you.

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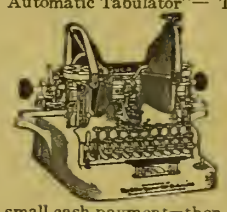

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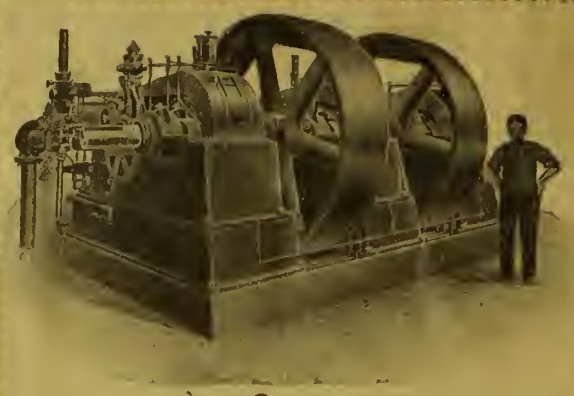
The engine referred to is of the size and type shown in cut, and is used for pumping water near San Francisco, Cal.



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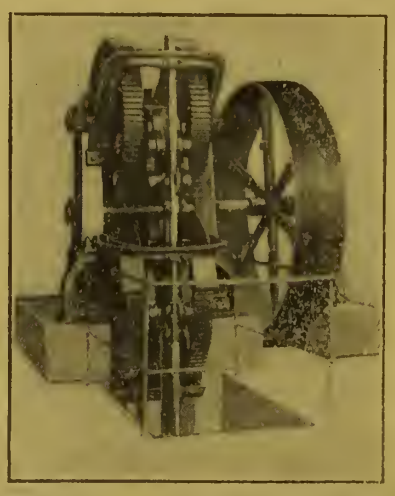

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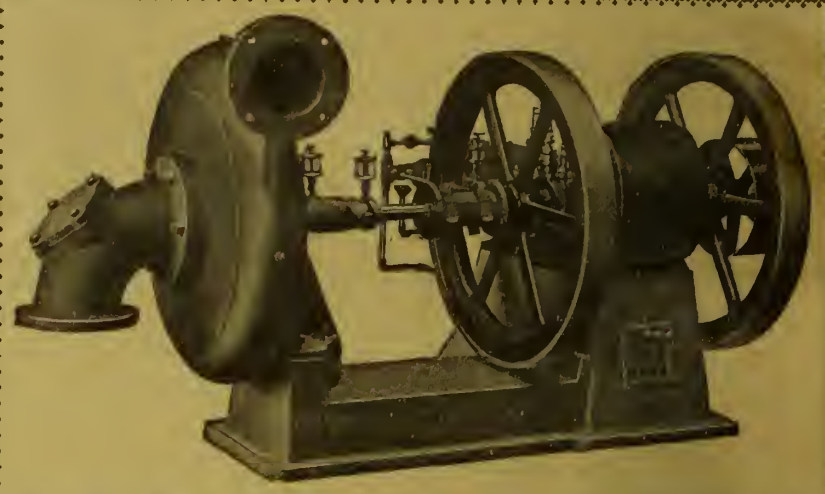

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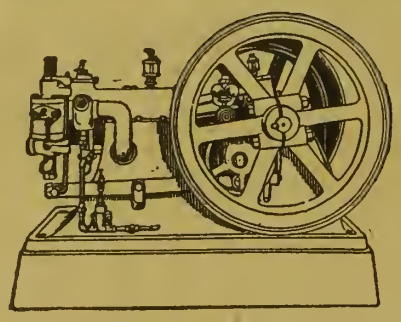

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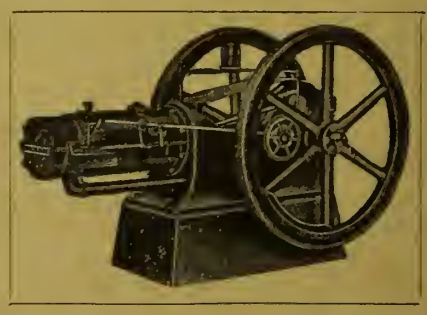

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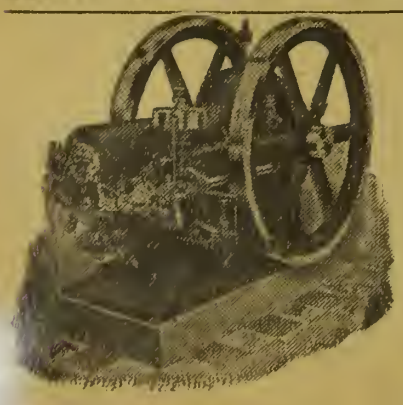

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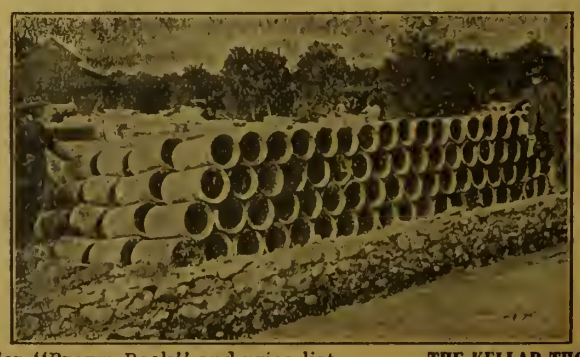

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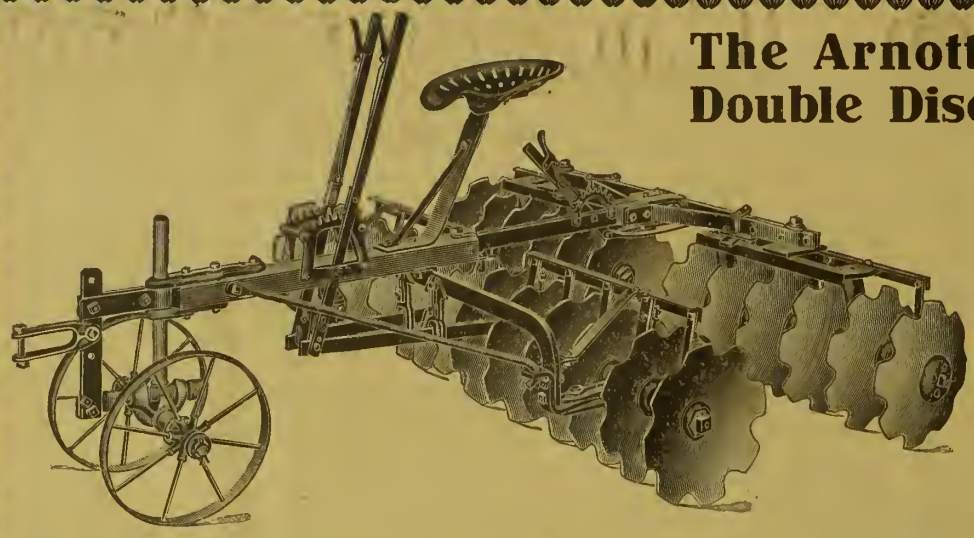

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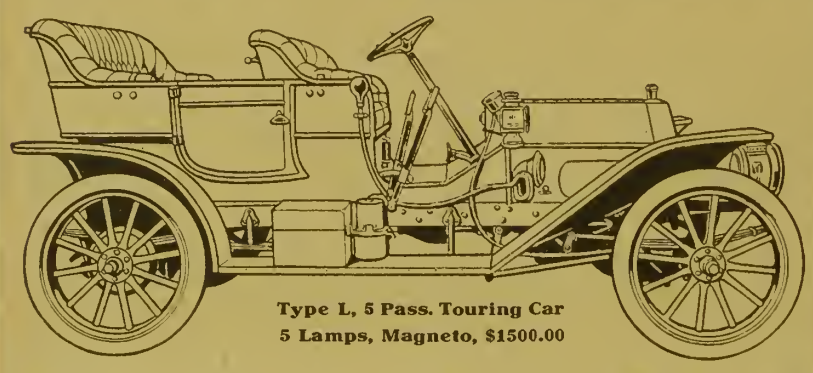

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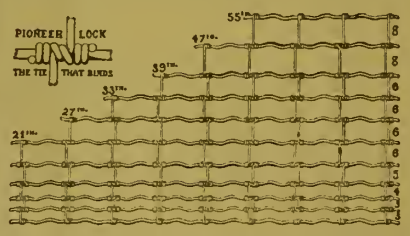


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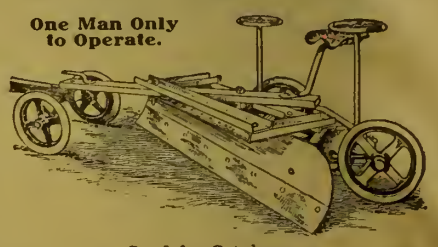

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# California Cultivator

Vol. XXXIII—No. 17 Los Angeles, California, Thursday, October 21, 1909 Subscription $1 a Year

# Conserve the Moisture in the Soil

An Address by J. B. Neff of Anaheim Before the Covina Farmers' Club
October 16th, 1909

IT IS not very generally known how large an amount of water is required for the production of even fair crops. But from the numerous observations, made both in Europe and the eastern United States, it has been found that from 300 tons to as much as 750 tons of water is needed for the production of one ton of dry matter. Enough water to cover one acre one inch deep will weigh about 113 tons, so that if one ton of hay is to be grown on an acre there must be from three to five inches of water applied at the proper time, in excess of that lost by evaporation. The amount used is largely in excess of this as the rains do not come at the most opportune time nor in quantities that will do the most good. The greater part of the water that falls as rain goes into the soil. The amount that runs off without entering the soil varies with the compactness and inclination of the surface and with the character of the rainfall. The free water which forms the visible liquid layers on the soil grains or occurs between them is pulled down by gravity. The water which is held by the soil particles against the force of gravity is called capillary water. It cannot be seen as liquid water, but its presence can be recognized by its effect upon the color of the soil.

In drying weather capillary water evaporates from the surface of the soil, the soil drawing more water from below, but not in sufficient amount to wholly replace that lost by evaporation. There is therefore a continual decrease in the content of capillary water until the next rainfall or irrigation. The free or permanent water may rise in the soil to replace the capillary water lost by evaporation, and it is constantly running off into the natural drainage channels as spring and seepage waters. These several motions of water all take place when the rainfall or irrigation is sufficient to give an excess over what the soil can hold in what has been called the capillary state.

If the surface soil be open and loose, heavy rains completely fill the pore spaces of the upper soil, and when the surface layer is thin it often becomes so soft and filled with water that this loose layer washes and forms the deep cuts which injure so many sloping fields.

It is from the capillary water that plants and trees obtain the greater part of the water necessary to their growth. In order that plants and trees may make their best development the soil must be in such physical condition that the roots can readily penetrate it. It must contain sufficient capillary water to supply the needs of the plants and trees and this water must be renewed as it is taken up. There should be no large air spaces, since these cause the soil to dry out readily and prevent the development of many of the rootlets.

The soil should be porous but not loose; firm but not hard nor consolidated; close grained, but not run together nor sticky. The ideal condition is that of a good loamy soil which has been thoroughly pulverized when in the best condition as to moisture and then firmed by pressure. The pulverizing breaks the soil into granules which the pressure brings together without crushing them. Such soils will take up and hold the most water, not as water is held in a dish, but more as it is held in a sponge. It is free to move under capillary force yet it does not exclude the air.

Proper tillage has two effects. First the soil is brought into the desirable condition already described, so that there will be a deep, mellow, but firm root bed to absorb and store the rainfall and irrigation water, and second, the loss of water from the soil by evaporation is prevented as far as possible. The air is also allowed to penetrate the soil and this is one of the essentials to good growth of plants.

It sometimes happens that there is too much water in small areas of low land in the winter season, from seepage or other cause, and that these lands do not carry the trees through the season as well as the dryer lands. In such cases drainage should be resorted to, in order to get the surface water away so the air may get into the soil and the roots of the plants go deep and be able to withstand the dry weather.

If the soil reservoir has been well prepared and filled with capillary water, cultivation should be directed to reducing the loss of water by evaporation to the lowest possible point. The water that passes through the plants themselves is of benefit to the crop; that which is evaporated from the soil is wholly lost. In spite of all that can be done there will be losses from the soil in drying weather, but these may be materially reduced.

It is well established by the experience of farmers as well as by direct experiments that a layer of loose dry, well granulated soil 3 or 4 inches deep is effective in preventing excessive evaporation. If this mulch be maintained through the season by proper and frequent cultivation it is more beneficial than a straw mulch. But to be effective the cultivation must be done frequently. It is usual to speak of a "dust mulch" but the better mulch has a granular structure and is not composed of dust.

Water is the one element in farming which may be needed to successfully grow an orchard. Such being the case it should all be made to enter the soil. In order to have the water go into the lower soil quickly a deep porous bed should be prepared. This does not mean that the soil should be loose and open with large air spaces. It should be a mellow, close grained mass, without any tendency to become solid or to stick together. In this condition it will take up water readily, which will sink down so as to equalize itself and leave the surface in good condition for cultivation.

The furrow slice is completely separated from the soil below in the process of plowing, and when green manure crops are turned under the furrow is further separated. This loosened soil should be settled to re-establish connection with the lower soil. Evaporation is rapid from such loosened soil, and it should not be left in this open condition where water is so valuable. A weighted disk harrow with the disks set straight so as to cut down into the soil without turning it is very effective in closing the air spaces and firming the under soil. A spike tooth harrow is not effective alone and a roller is not good because of the smooth surface which is left to increase the evaporation. The day's plowing should be firmed and harrowed before leaving the orchard in the evening, if the weather is at all drying. This is very important, as a fresh moist surface loses water to the air rapidly while the surface loosened by the harrow dries out quickly and protects the soil below.

The organic matter in soil increases its water-holding power and improves the physical condition. This is one of the direct advantages of a large supply of humus in the soil. In addition to the application of barnyard manure it will be profitable to grow leguminous crops, such as peas and vetches, for green manuring, as these draw nitrogen from the air and add both humus and nitrogen to the soil.

A rich alluvial farm destroyed by a freshet.
Courtesy Superintendent Public Instruction, California.

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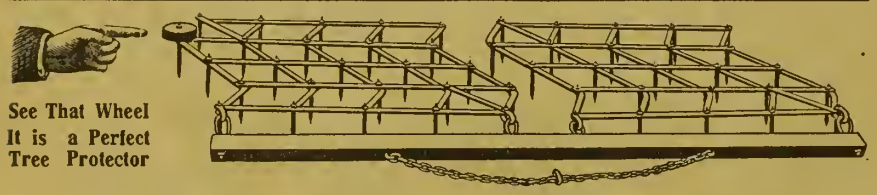

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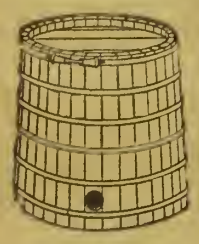

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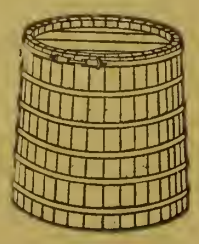

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# Citrus and Sub-Tropical Fruits

### SOIL INOCULATION.

By Walter F. Sutherst, Ph. D., Bishop, Inyo County.

A GOOD deal of attention has been drawn lately to the process of adding bacterial cultures to seeds and the soil for the purpose of increasing the nitrogen assimilation of the latter, the crops generally utilized for this being the leguminous variety, these having attached to their roots, nodules containing bacteria which have the power of absorbing nitrogen from the air in the soil and by a complicated synthetical process converting it, together with other substances in the root sap, into albuminolds. It stands to reason that the roots of a leguminous plant if not well supplied with these bacteria cannot thrive as well as one better supplied, and if their number in the soil be small, then a poor crop must be expected.

The object of the inoculation is to supply these bacteria either to the seed or soil, in the expectancy that they will eventually attach themselves to the plant roots and by a process of symbiosis, hand over the atmospheric nitrogen in a complete and assimilable form to the plant. All this reads well on paper, but numbers of trials including those carried out by myself, have shown that success is not always ensured, and the reason is not far to seek.

The soil is a "hot-bed" of bacterial life and, except under very unfavorable conditions, contains the nitrogen gathering bacteria, which will, when a leguminous crop is planted, fasten to the roots and carry out their work of nitrogen supplying. Every kind of bacteria has its favorable conditions of life, when its growth and multiplication is at its best; e. g. in warm milk one microbe reproduces so rapidly that in a few hours many millions are produced, but the same placed in water would produce a few hundreds.

All kinds of soil are not favorable for the growth of the nitrogen gathering microbe, otherwise, being always present, they would multiply to their farthest extent and suffice for the largest crop, but once get the soil into a good condition by irrigation, manuring, tillage, etc., then any crop can be grown. A soil not in a fit condition for bacterial growth will never succeed in raising leguminous crops however much inoculation is carried out, and moreover the proper cultivation of a soil will raise of itself sufficient nitrogen gathering bacteria. One of the best media for soil bacteria is farmyard manure, which supplies warmth, moisture and organic matter, all the necessities for bacterial growth and being alkaline and giving off alkaline substances, as ammonia, neutralizes soil acids which are destructive to the nitrogen bacteria. The addition of lime is useful in destroying acidity, but it is of no other use to microbic life.

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The apiarists of Ventura county recently met in Ventura and formed a permanent organization for the protection and betterment of the interests of its members. The first step will be to secure the appointment of a bee inspector. A. W. Allen of Santa Paula has been named for the position.

### MANGOES FOR SOUTHERN CALIFORNIA.

In all warm countries of the world there is probably no more popular fruit than the mango, mangifera indica. In India, where it is a native, this tree was brought under cultivation thousands of years ago, and numberless varieties have been originated, in the same way that it has happened with apples, pears, peaches, etc., in the temperate zone.

At Santa Barbara, at Hollywood, and other points of Southern California, mangoes were grown and have been bearing fruit since twenty years or more, but they were never considered more than a curiosity, and no attempt was ever made at testing the possibility of profitable Mango culture in Southern California.

A short time ago, at the request of Dr. Franceschi, the office of Plant Introduction of the U. S. Department of Agriculture asked the superintendent of the government botanical gardens at Saharanpur in Northern India for detailed information concerning the merits of the different varieties of mangoes which are grown in that part of the Indian peninsula.

A most valuable and particularized report from the superintendent, accompanied by a chart where 55 distinct varieties of mangoes are described, has just been communicated to Dr. Franceschi by the Department of Agriculture, for examination and further recommendations on the subject.

Restricting the choice to the most hardy varieties, combining also first quality of fruit, Dr. Franceschi has recommended that eight of the varieties described be imported, and submitted to practical testing in California, there being reasonable prospects that, at least, some of them will find congenial conditions with us.

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### FIRST CITRUS FRUIT.

The Pioneer Fruit Company is proving its right to its name in being first to make a shipment of citrus fruit from Lindsay this season, and further, in shipping a new variety of citrus products.

This consists of the seedless lime, a variety hitherto known merely as a curiosity. Now, however, this fruit has been brought to a state of commercial perfection and the first consignment though not a large one is shortly to be shipped from John Hedberg's grove near Lindsay.

The fruit is as large as an average lemon and the juice is almost double the strength of lemon juice, therefore we imagine that there should be a good demand for this variety as soon as it shall become well known.

It is well known that lime juice has some very valuable properties, being foremost, a potent antiscorbutic, and exerting generally a salutary effect upon the human system. Lime juice is one of the compulsory items, in England anyhow in the outfit of certain sea-going ships, and no arctic expedition could safely start without a plentiful supply of it. Success to the seedless lime.—Lindsay Citrograph.

---

A Riverside producer has some seedling oranges which have made a growth in five months from the seed of two and a half feet.

## EXPERIMENTS WITH COVER CROPS.

We have a note from Mr. Ben F. Thorpe of Covina touching upon the increasing interest in cover crops. He says the subject seems to be attracting more and more attention from the orchardists of California, especially as the supply of barnyard manure is lessening every year and the price advancing. The cover crop will at least supply the soil with the needed humus and with a percentage of fertilizing matter, just what percentage, the government scientists are now trying to determine definitely. We quote from Mr. Thorpe's letter:

"Those orchardists who have made a careful study of the matter, consider its effect on the mechanical condition of the soil, to be of sufficient value to warrant the continuance of its use in their orchards. It seems to be regarded as an undisputed fact, that the presence of humus in the soil, makes the other fertilizers that are applied, much more readily available as plant food. It is also supposed to release some of the insoluble chemicals, that exist in most California soils. At present I am sowing one ten acre orchard to vetch, and another ten acre tract to a variety of leguminous plants, the seeds of which are furnished by the Bureau of Plant Industry on an experimental basis."

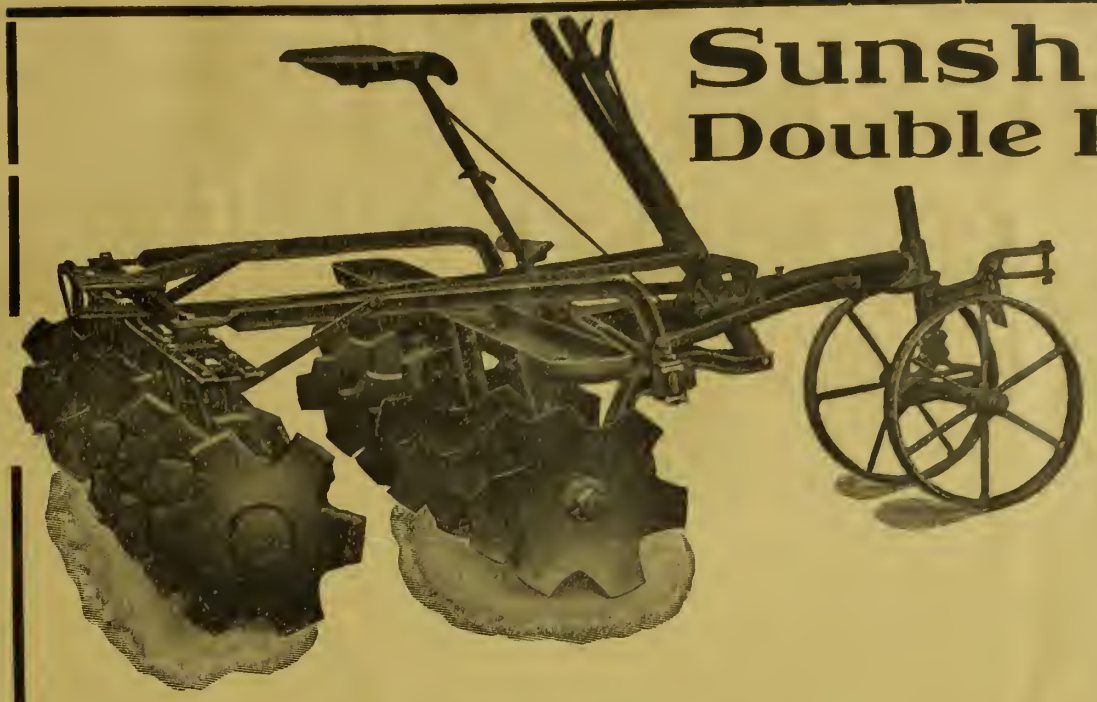
We shall be glad to hear from Mr. Thorpe if consistent with his connection with the Department, as to results of his experiments.

## KEEP OUT THE PESTS.

Speaking of the importance of keeping pests out of a fruit producing section, Prof. Cook said at the recent picnic of the San Fernando Fruit Growers Association:

In going through your groves I find very few insects or scale here, but it is a matter of considerable importance and we should give it more attention. While, of course, considerable effort has been put forth to eradicate these pests yet during the past year we have discovered the mealy bug, red and purple scale, pests we did not know we had. We ought not to have politicians controlling these affairs, but men that know their business and are alive to the importance of these conditions.

While you think your climatic conditions are such that scale cannot survive, yet I want to tell you that they do become acclimated. Take for instance Riverside. Several years ago they had no scale and thought that on account of the hot winds they would never have them, and now they have them. At any time you think you are safe, the disease may fall. Take Highlands and Redlands. They were doing just as you are now, and today are organizing to fight the scale. It is a fact that scale become acclimated, change their habits and get down into the roots of plants to seek protection. If you do not fight them, they will propagate and soon cover your groves. Another trouble is that getting on other plants, it is hard to keep them out. It is, therefore, necessary to keep them out. How much better it would have been to have kept them out of this state, than to now be spending thousands of dollars to fight them. If you are wise, you will keep them out of this valley. Have such a quarantine that these insects will not get in.

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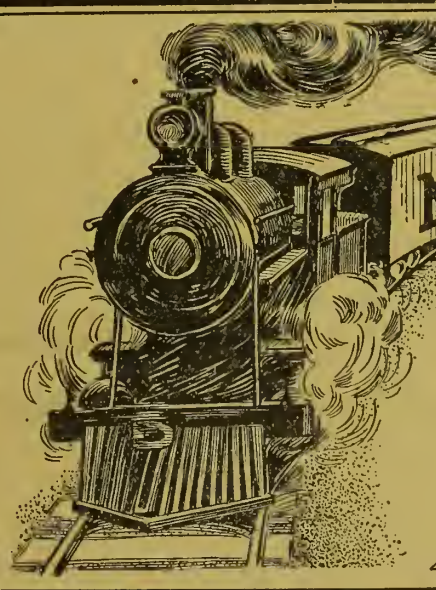


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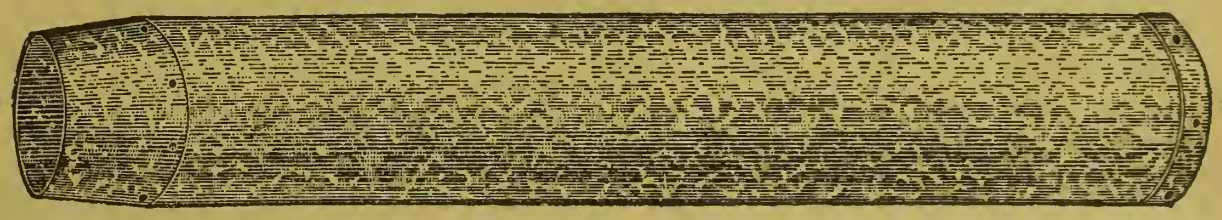

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# Deciduous Fruit Culture

## INJURY TO PEACH BLOSSOMS BY COLD.

THE PEACH tree is one of the most susceptible fruits to warm weather that we have. The early warm spells which are more or less common in New Mexico during January and February frequently cause the peach buds to swell considerably. If these warm spells continue the late peaches will begin to open, at this place, (In the Mesilla valley) about the first weeks in March. After the buds are open it is quite common to have a change in the weather. Occasionally during these cold spells the temperature may drop down to 25 and 22 degrees F. It is those late spring frosts which are responsible more than any other one factor for the failures of the peach crop in New Mexico and in many of the peach growing sections of the country.

The temperatures at which these peach blossoms or peach buds are injured has been given by different authorities at different degrees. W. H. Hammon in "Frosts, How and When to Prevent Injury Thereby," gives the killing temperature for the peach in the bud at 29 degrees, in bloom at 30 degrees, in setting fruit at 30 degrees. Another authority says "And while the growth of the pistil is mostly after fertilization it is, however, true that during the time when it is receptive to the pollen it is most susceptible to cold and other conditions and it is the portion of the peach bud that first manifests injury from frosts or other exposures." The temperature at which a peach blossom is killed depends on a number of conditions, the age of the tree, the stage of development of the blossom, the degree of cold, and the length of time to which the buds are exposed to the low temperature.

Observation on the injury of peach blossoms by cold were made at the experiment station peach orchard this spring. The observations were taken in a three year old peach orchard. The trees are exceptionally vigorous and they bloomed very heavily. Minimum self registering thermometers were placed in the orchard close to the peach trees. The winter of 1908-9 was quite mild. During January the exceptionally warm weather caused the peach buds to swell considerably. By the 2nd of March such varieties as the Elberta and Salway were beginning to bloom. These varieties were in full bloom by the 10th of March, when there was a snowfall of about six inches. For the next two days after the snow the temperature dropped down to 16 degrees. This low temperature killed all of the buds that were out in full bloom and those that were about to open. Again, this cold spell caused all of the varieties which were not out at this time to be retarded considerably.

It is estimated that on account of the cold spell such varieties as the Texas King, Elberta, Hyne's Surprise, and Sneed bloomed two to three weeks later. These varieties were beginning to bloom on March 24th and they were in full bloom April 5th. On March 31st the weather was quite cool and on the morning of April 1st the temperature dropped to 26 degrees. In places close to the orchard where there was a little water a thin film of ice was found. After having read the self registering thermometers in the orchard it was thought that all the fruit had been killed. In the afternoon of April 1st a thorough examination was made of the trees in bloom and it was found that there were about two per cent. of the blossoms killed by the low temperature of 26 degrees. Why this low temperature did not do any more injury is due perhaps to the fact that it did not last at that degree but an instant. Had that temperature lasted an hour or so there is no question but that a very large per cent. of the buds would have been killed. On the morning of April 8th the temperature dropped to 24 degrees. This low temperature lasted for over an hour. The result was very disastrous. In the afternoon all of the peach varieties out in bloom were examined and it was found that the injury had been very great.

From actual count it was seen that the buds which had been open for some time and which were setting fruit seemed to be more delicate than the recently opened buds or those about to open. This is contrary to the general belief and also to the opinion of some of our horticultural authorities. It was thought that the freshly opened buds were more delicate than the ones which were setting the fruit. On the morning of April 9th the minimum temperature registered in the orchard was 29 3-4 degrees. Though this temperature lasted for about ten minutes there were no injurious results from it.

While all of these observations are only preliminary, at the same time a number of interesting facts seems to have been brought out. In the first place it seems that the opened buds will not be killed by a freezing temperature of four degrees provided it does not last long; that even a temperature of 26 to 24 degrees when it lasts for over an hour will not kill all of the freshly opened buds or the buds that are about to open. The freshly opened buds seem to be more cold resistant than the older buds or those which have lost the petals. The killing temperatures as a rule take place early in the morning. From four o'clock to six o'clock is the time when the spring killing frosts are expected.—Fabian Garcia, New Mexico Ag. Exp. Sta.

## WANT AN IMPROVED PACKAGE.

The apple growers and dealers of the country are a live set of people and if there is anything in their line that will make the business an improvement over what they are now using for the purpose they want to know it. For years the only package for apples was the barrel, but as the business advanced and improved, it was found that the present box was better, and now the universal package is the box. It would almost seem that the box was as good as would ever be secured, but one never knows, and perhaps there is an idea smouldering in the brain of some individual that, if developed, would result in a revolution in the apple packing and

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### RELATION OF FRUIT GROWERS TO NURSERYMEN.

The relation between fruit growers and nurserymen should be most cordial and candid for each must depend on the other. The nurseryman could not exist without his fruit grower customers, and on the other hand few trees would be planted if each man had to propagate his own. To be successful, the nurseryman must have the confidence of the fruit grower. There have been times when the fruit grower was justified in condemning the nurseryman in strong terms because the trees were not of the grade or variety purchased and paid for. There is nothing meaner in the whole business of fruit growing than for a nurseryman to sell and agree to deliver one variety, and then without the knowledge or consent of the customer to deliver some other variety, no matter if it is done by inattention or by error. If the fruit grower wants to order Ben Davis apple trees it is the nurseryman's duty to deliver Ben Davis and nothing else. If he connot furnish Ben Davis trees it is his duty to say so and then to obtain permission before substituting some other variety. It is a satisfaction to know that reliable nurserymen are honorable in this matter and may be depended on to deal fairly.

When a fruit grower decides upon planting trees he should make out a list stating what he wants; that is, the names of varieties, the number of trees of each variety, the age and size, low headed or high headed, root grafted or budded, and submit this list to the nurseryman asking first if he can furnish the trees as specified, and second at what price. Dealing direct with the nurseryman is best, then he can be held responsible if the trees are not as represented. Nurserymen who win the confidence of, and deal fairly with, their customers, need not worry about future sales. One honest deal will be followed by many orders.

As a rule it is best to deal with the nearest reliable nurseryman, then shipments will be shorter and freight or express bills less than when dealing with distant firms.

### THINNING APPLES BY HAND.

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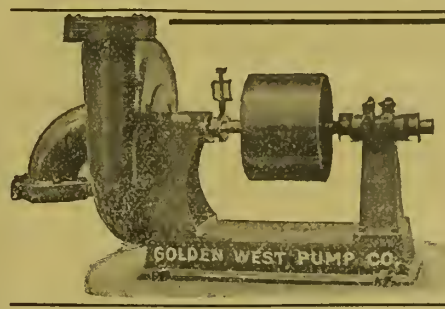


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**Going to build? Settled the Roofing question yet? Or it may be that you have an old roof that needs replacing. If you want a roof that will wear for years without paint or repairs, Pioneer Roofing is what you are looking for.**

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Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

## SEASONABLE SUGGESTIONS.

By Mrs. M. E. Sherman.

IN a few weeks the time for the Farmers' Institute will have come around once more. Have you thought of this important meeting before? It is of the greatest importance for every farmer to attend. Even if the University men do not know as much as the farmers, the farmers should be generous enough to come and inform them. During the summer in looking after the stock and fruit, problems come up that could not be decided off hand. Each day of the Institute these questions can be discussed by an intelligent audience and submitted to the University experts for answers. Are you prepared to get the good of this meeting? I do not mean are you prepared to go there and eat some one's new cake or new salad. I know that few think of the Farmers Intsitute as a Quiz School, yet if it was used in that way it would reach more practical results. After every Institute I attend there comes a trail of simple questions showing that had the farmer gone there at all prepared, the questions could have received intelligent discussion. The personal element of talking to an audience is far more than the mere answering of a question, they catch the spirit of investigation. Using opportunity is the way to acquire information or money. Whatever we have most at heart will come to us. We add to ourselves the thing we love, if it is only a little yellow dog. Now do not miss this opportunity. Keep a tablet of paper and a pencil at hand and jot down all the puzzles that have come up in the day's work. Write questions to cover them and bring these questions before the farmers at the next Institute. If you are too timid to talk to them directly—and it is a pity that self consciousness ever is awakened in the human mind—write out the questions and put them in the Question Box.

### Bugs.

One correspondent writes to me about a bug that has troubled the pumpkin vines. That is a uestion for Prof. Clarke and out of his wisdom will come a cure or at least a palliative for this pest. It is his every day business to meet and over come bug foes. In Fresno we have less trouble with pests that live in the soil, than in some other parts of the world. The heavy land runs together and they do not increase rapidly. The phyloxera on the roots of the grape vines, have a hard time of it, for after twenty years they have only destroyed small circles of vines in a few of the worst vineyards and even then the rate of spreading has been very slow and the improved resistant roots are in bearing before there is much loss. So I do not know much about bugs, but Prof. Clarke is intimately acquainted with them. It is only necessary for them to meet to be known to each other.

### Cheap Feed.

The alfalfa meals will have to be used more and more, yet as the price of alfalfa hay soars up they will naturally become more expensive. It is now a problem to secure something for the cows at reasonable rates. Last year Caprico meal helped us out considerably. This is a by-product made from raisin seed. We feed two pounds of it with one pound of rolled barley and one pound of bran. While this is not strictly in balance the cows have to balance it up with alfalfa hay themselves. This year we will use brewers dried grains and hope to make it answer in our mixture without using any bran at all. The bran used in the other ration is merely to please the cows, as they eat it better than without bran. One year I tried adding a little anise seed to the feed and found it helped the cows to eat it up clean. The cow's taste has to be consulted if the milk pail is to show results.

### Figuring.

The question was asked me today by phone, and now comes in a letter, how butter fat is figured out. Now the 4 per cent means that in every hundred pounds there are four pounds of butter fat. The cow we are testing has produced 28 pounds of milk. How much butter will she produce in one day? Multiplying 28 by .04 gives 1.12 of butter fat in a day. Now butter fat is only 80 to 84 per cent of commercial butter, as water, milk and curd is found in butter. The salt in butter is carried by the water surrounding each tiny globule of butter fat. To add one sixth of the amount of butter fat will show the amount of butter produced. Divide the 1.12 by 6 and add the result to 1.12 pounds and this will give the total amount of butter for one day. Many creameries pay the quotation price of butter for the fat, the overrun of butter being enough to pay for the cost of making and selling the butter. The overrun of butter has been made excessive in many cases—by using water filling. By adding warm water in the washing a large amount may be incorporated into the body of the butter. Twenty-five per cent has been added in this way. The Government prosecutes all cases where more than 15 per cent of water is carried by butter. One creamery in San Jose has recently had to pay a heavy fine for adding too much water to the weight of the butter.

### Milker's Day.

A question is often asked as to what is a milker's days work. Thirty cows milked twice a day is considered a man's work. If the cows are milked three times a day, then two cows count as three in a string. The work begins at different hours on dairy farms, governed by the hours at which the milk or cream has to be shipped out. At this home ranch Alex goes to work at 3:30 in the morning, putting the cows into the barn from the corrals or field where they are ready for milking. He milks

**Cream Separators, all sizes, and prices. O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

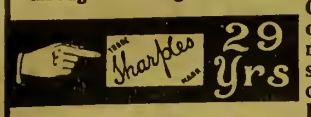
**Anthrax Cure, Milk Fever Outfits See O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

# Good Reason

Users have good reason to consider Sharples Dairy Tubular Cream Separators the World's Best:

**ETHELTON, Aug. 29, '09. "I bought a disk-filled cream separator. It worked fairly well for two years, then started to run hard, getting worse, until I could scarcely turn the milk from six cows through. It got skimming poorly. Could see cream on milk after standing overnight. Finally got so disgusted with it that I bought a Sharples Tubular. Would sooner pay for a Sharples Tubular than use a disk machine for nothing. Could turn my Tubular all day if necessary. Can wash it in quarter the time, skim cleaner, make heavier cream. My cream test now is 50. Tubular bowl hangs from ball bearing and never gets out of balance."**

**—Joseph Walker.**




Tubulars are replacing all other makes. Different from all others. The only modern separator. World's biggest separator factory—branch factories in Canada and Germany. Sales exceed most, if not all, others combined. Write for catalog No. 260.

**THE SHARPLES SEPARATOR CO.**
WEST CHESTER, PA.
Chicago, Ill., San Francisco, Cal., Portland, Ore.
Toronto, Can., Winnipeg, Can.


them, putting the cans on the milk truck, feeds the calves needing new milk, and then puts the cows out into the field before the breakfast bell rings. After breakfast he hitches Sam to the milk truck and hauls the new milk to the separator, puts the separator together, and the engineer turns on the steam. They then hoist up the milk to the tank and turn it into the separator. Alex tends the separator, taking away the skim milk cans as fast as they are filled and standing them on the truck. After the morning milk is through, the milk from the night before is turned into the tank and the steam hose turned into it to warm it up to blood heat and melt the clotted cream. This is then run through the separator. The two lots are kept separate so that the creamery may sell the cream from the morning milk for cream, while that from the night milk is used as butter cream. The two lots of skim milk are also kept separate, as the morning milk is used to feed the younger calves and the tiny pigs, while the skim milk from the night before goes to the older calves and hogs.

Alex hauls the milk down to the younger stock and turns over the milk to the roustabout who feeds the older pigs and calves. Alex then comes back to the creamery with the empty cans, washes and scalds them and the separator and the milk tanks, loads up the clean cans for the evening milking and puts them on the racks at the barn. Sam is then unhitched and Alex goes to bed to sleep until the noon bell wakes him.

After dinner he puts on his dirty clothes, cleans out the stables and sprinkles them with gypsum, then does his washing, cleaning up his suit worn at the morning milking, and scours himself up with hot water in the bathroom. After that, dressed in his clean clothes, he opens the gate and stands and calls the cows, they rise up and slowly trail in after him to the barn and in at the doors. As fast as they come in he drops the chains behind them in their stalls, takes a wide brush and puts any manure out of the way into the gutters, covering it with gyysum, then goes over the cows' udders carefully and sees that they are clean, puts on his clean milking jacket and overalls, washes his hands and arms and goes to milking at three o'clock. After the calves are fed on the new milk he goes out with the cows to the field again, then back to harness Sam and haul the milk up to the water cooler where it is placed under a screened house in the open running ditch water to remain until morning. He then goes back to the barns, cleans and throws out the droppings for the morning, to be hauled off by the roustabout, sprinkles gypsum on the floors, and as the supper bell is ringing, turns old Sam out to eat with his friends the cows, and goes in to eat the food that is sweetened by a day of faithful toil.

### Cleaning.

The roustabout hauls all the manure away each day from the horse, cow and other barns and feeds the pigs and looks after the outside stock. The dry cows and springing heifers are with the milk cows at all times, as Alex looks after them more carefully than any one else. The heifers are made gentle by coming into the yard with the cows and often come into the barn in the winter time and receive a small grain feed with them. The outside silage racks are filled by the roustabout and he does everything else not mentioned as Alex's work. My faithful Alex has been here off an on for seventeen years and when I do not have him, I have one of his nephews or brothers or cousins, and they are faithful, good men. I have had in former days as many as seven of these Moors at one time as milkers, and they are good when handled with precision. They do not like meddling by foremen, but prefer to receive orders directly from the boss, which they carry out to the letter every time. There I have knocked on the desk three times so as not to spoil the luck.—M. E. Sherman.

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Untimely severe frosts sometimes damage the corn crop so that its marketable value is considerably lowered, but in this event, as in other cases, the hog comes to the rescue. Soft corn is considered excellent for swine, and especially for the young; in fact, many breeders believe they can obtain better gains from soft corn than with the sound, hard grain. In soft corn the maturing of the grain has been checked, thereby arresting the development of the starch content or fat-producing element. When used it is advisable to add, for finishing, some corn that is well matured Immature corn that is frozen and even somewhat soured may be fed to hogs, but if there is on hand a greater quantity in that condition than can be used on the farm before warm weather sets in it should be disposed of while the weather is cold. Ordinarily it may be used in cold weather without danger, but it should not be carried over into the warm season, as it will ferment and become unfit for use.—From Coburn's "Swine in America."


**Pulp vs. green grass. Give your dairy milk machines pulp, and they will give you returns in the milk pail. Los Alamitos Sugar Co., Los Alamitos, Cal.**

**Do your cows milk hard? Send 50 cents for teat expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

# Can We Ship Chicks?

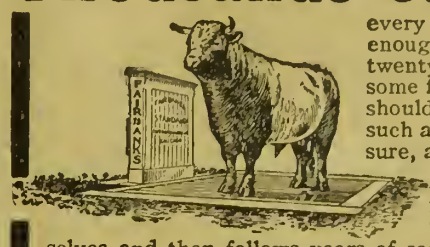
**Read** Sept. 4th, we shipped 505 Rhode Island Red Baby Chicks to B. F. Selby, Big Pine, Cal. These chicks traveled 72 hours, (think that over) and 500 of them arrived alive and strong.

We know how to crate baby chicks to make them travel safe anywhere within 48 hours' travel. We have off large hatches every THURSDAY at present. Prices 10c and up. Send today for chick and egg catalog, it's free. Now is the time to get chicks.

## Pioneer Hatchery Company

*112 East Eighth Street, Los Angeles, California*

# Thousands of Dollars Lost




every year by guessing weights. Think of it—enough money wasted on most farms in twenty years to pay for the land. No wonder some farmers don't get ahead as fast as they should when they are being held down by such a loss, and yet the remedy is simple and sure, and within reach of every farmer.

Are you protected by **Fairbanks Scales?**

They soon save enough to pay for themselves and then follows years of saving which is clear gain. They are a permanent investment—not something that has to be replaced every little while. Every scale is tested at each of the four corners of the platform before it leaves the factory. Each corner must weigh just its share—no more—no less.

Enjoy the satisfaction of knowing whether or not the scales of the buyer tally with your "home weights." The value of this protection each year is equivalent to its total cost.

Cut out complete advertisement and write for free Scale Catalog No. ZC 1034

**Fairbanks, Morse & Co., San Francisco, Los Angeles.**

*Or address the nearest one of our 27 branch houses.*

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## When? - - - - - - Now

Molting time is the best time in the entire year to dip your fowls.

Kill all the lice and vermin and let Biddy start in the new year in a good healthy condition in her new coat.

## In What? -- Creolium

CREOLIUM is a coal tar preparation and and is the greatest germ destroyer and disinfectant known to the poultryman of the present day.

It is Anti-Toxin and Non-Poisonous.

The PACIFIC POULTRY COMPANY has used CREOLIUM and nothing else for years as a spray for the houses and a dip for the fowls, to keep their thousands of birds clean and healthy. What more testimonial or guarantee could you ask?

It is not expensive for in nearly every instance it is diluted to one part CREOLIUM to 50 parts water, sometimes even more.

It is an indispensable remedy for the stable and among the cattle.

**PRICES AS FOLLOWS:**

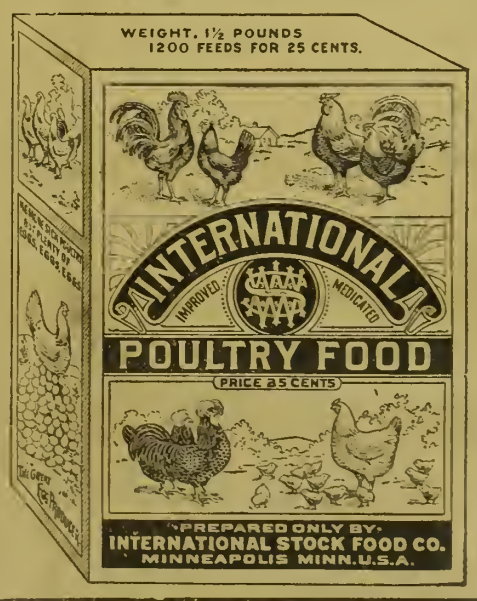
Quarts, $1.00 — Gallons $2.50
½ Gallon, $1.50 — 5 Gallons $12.00
Special rates on large quantities.
Mail orders filled promptly, if money accompanies order.

# The Pacific Poultry Co.

**are sole agents in Los Angeles County for this product, and it is for sale at their plant in Inglewood, also at their Los Angeles Office, 416 Chamber of Commerce Bldg.**

Write for literature.

## International Poultry Food




The wonderful egg producer. The great production of eggs has given the "International Poultry Food" a wonderful reputation throughout every state. We guarantee that it cannot be fed to hens at any time, winter or summer, without showing a large increase in eggs. You do not have to use the food at an extra expense, because it will make you more money after deducting its cost. One extra egg per month will pay the entire cost of feeding it and often more than double the supply. It contains no poisonous or injurious ingredients and has very superior merits.

Put up in 25c, 50c and $1.00 size packages, and 25-lb. pails $3.50.

**Only Costs 8 Cents a Month to Feed It to 12 Fowls.**

**GERMAIN SEED and PLANT CO.**
**326-330 South Main St. Los Angeles, Cal.**

**VENADERA HERD**
**Registered A. J. C. C. Jerseys**
St. Lambert and Flying Fox Blood. Margery Golden's Fox heads the Herd. Young stock for sale. GUY H. MILLER, Prop., R. 3, Modesto, Cal.

## Berkshires--Shorthorns

My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
*G. A. MURPHY, PERKINS, CAL.*

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This mark and the name "Keen Kutter" eliminate *all* uncertainty in tool buying.

This quality mark covers a complete line of tools for every purpose, so all you need remember in buying a tool of any kind is the one name, "Keen Kutter"—and the mark.

No matter how much you pay, you cannot get tools, anywhere, better than those sold under the name of "Keen Kutter." Just look for the mark and you can't buy wrong.

**SIMMONS HARDWARE COMPANY (Inc.)**
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E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS MARK U.S.A.

**Strawberry Plants**
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Will yield more berries, and have fewer runners than eastern stock. Breeding plants carefully selected each year and not allowed to fruit.

**Superb--Everbearing**

We have Brandywines, Jessie, Marshall, Burbank Beauty, Excelsior, Enhance or Al, Lady Thompson, Klondike, Mrs. Miller, Hummer, August Luther, Commonwealth and Pride of Cumberland.

Write for prices.

**G. H. Hopkins & Son**
**BURBANK, CAL.**

**EUCALYPTUS**
**TREES AND SEED**
**SUNSET HORTICULTURAL COMPANY**
**Inglewood, California**

# Bees and Their Care

## "CAN BEES MAKE BAD HONEY?"

By Henry E. Horn, Riverside.

UNDER the above caption the "California Fruit Grower" of August 21st, 1909, reprints an article originally contributed to the "Retailers Journal" by H. G. Hertel, wherein the latter attempts to dissipate supposed popular fallacies concerning honey making in particular, and apiarian practices in general. Mr. Hertel's efforts can scarcely be called a success, and that for very simple reasons. His knowlege of the matter in hand is plainly book knowledge, and conglomerate book knowledge at that, and though the latter is often very useful, and even necessary, still it alone can never fully equip a critic.

Mr Hertel's category of bee-ological errors opens naturally enough with the honey bee "him" self which he speaks of as "he," whereas everybody who ever kept even only a single colony knows that the he bee and the insect universally known as "the" bee are two very different institutions. The last, the nectar gatherers exclusively, also called workers," are a species of "she's," if anything, certainly not "he's," for at queenless times they sometimes undertake to lay eggs, a female accomplishment exclusively. Their physiological status is not as yet as clearly determined as it might be wished, but "he's" they are not. The males, or drones, of the bee hive, Mr. Hertel, work not, neither do they spin. Their mere presence is sufficient compensation for their board and lodging to the rest when times are good in this ideal "suffragette's" state. But when provisions run low—this is the night side of the thing—drones are murdered off and their mutilated corpses thrown out of doors like so much rubbish. This has been the law in the beehive since Tertiary times, a little matter of ten million years, or so.

Extracted honey is spoken of as cleaner than "strained," because the latter is supposed to be the resultant product of pressing honey, brood, pollen and all the contents of a comb into some vessel, and then straining the honey out in some way or other, whereas extracting is said to throw the honey out, only, leaving the brood in the comb. If Mr. Hertel will continue his apicultural studies there is hope that eventually he will catch up with the facts of the case.

The bee hive of a modern apiary run for extracted honey—and from such only the whole mass of the honey in the market comes, practically—consists of two distinct and separate apartments—to-wit: the broodnest; the box standing immediately upon the bottom board, containing all the brood and pollen and some honey; and the super or honey chamber. Between those two a perforated sheet of zinc is placed for the purpose of excluding the queen from the honey chamber, and, hence, also all brood, yet not the workers; the size of the perforations governs this point to a nicety. There is then no brood, larvae, pupae, or anything else in the super, but honey only; clean, white, aromatic slabs of the size of the frames used. To him who knows, nothing in the line of preserved food stuffs could be cleaner than honey as it comes from the apiary.

### Honey Dew.

As regards honey dews; sometimes for some unknown reasons pine boughs sweat out a clear sweet liquid; this liquid bees of the neighborhood will gather and deposit in their combs. But as for that stuff being unclean, or unhealthy, why, the healing virtue of the pine woods itself is concentrated within it. In the Black Forest region of Germany pine honey, of which some is secured every season, is used as a folk remedy for throat and lung troubles.

Farther on aphis excretions, or secretions, are claimed as sources of "bad" honey. Here, also, Mr. Hertel seems to have mislaid his facts, for in an additional statement he speaks of ants "herding" aphidae for the sake of their sweetish offal. Now, ants, that will nigh omniscient nuisance, do herd a certain insect sure enough, or rather, tickle it until a handout of sweets is shoved out to them, but that insect is no aphis, but a certain kind of scale; nor is the miserable little green humpback on our rosebushes and melon rinds anyway related to it.

What a perversity it seems, anyway, to list aphis excretia (if such it really is, which is not so very sure) among the sources of bees' honey. And what a lack of understanding of the interior economy of the bee hive it discovers.

Even granting that bees could scrape up a mite of the sticky shining stuff on oak leaves and elsewhere, they certainly never bother with it as long as nectar sources flow. And it so happens that as soon as the latter dry up—that is to say, as soon as supplies cease to come in freely, whatever may still be gathered never enters the supers, but is deposited directly in the broodnest for immediate consumption by the bees themselves. Aphidae honey is about as plentiful in the market as icicles on the eaves in July.

Mr. Hertel finds fault, also, with Dr. Wiley's regulations relative to comb honey, which, he thinks, bear the inference that all comb honey is pure. And then the gentleman proceeds with a good deal less reason than Wiley's to instill the contrary inference by illustrating how easy it is to feed bees cheap glucose with which to fill their combs; thus producing adulterated honey sure enough which yet wears the mask of purity on every inch of its face. Where the necessary but impossible combs are to come from constitutes the lapse of Mr. Hertel in this instance.

Finally, "honey is essentially saccharine syrup" retailers are assured, which is precisely like saying that the flowing stuff of noted mineral springs is essentially wet water.

If a vial of honey is wrapped up in contact with a sensitive plate for a week or two the latter will upon development bear the image of the former. Mineral waters will produce the same result. The phenomenon of course, indicates that both are radium bearing. It is now held that the power of the springs to heal and comfort is one with their radio-activity. The presence, therefor, of that same native of the borderland of infinity in honey, as sharply differentiates between it and "saccharine syrup" as it differentiates mineral from river water.

TREES TRUE TO NAME. The SILVA-BERGTHOLDT CO. NEWCASTLE, CALIF. PLACER NURSERIES

**FRUIT TREES**
**ALL STANDARD COMMERCIAL VARIETIES**
The best that good care can produce
Write us now concerning your Fall and Winter Planting
AGENTS WANTED
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**Eucalyptus Seeds**

In large or small quantities. 33 kinds to select from. Write for free pamphlet "Eucalyptus Culture." It gives full directions for sowing the seed, raising the plants and planting out into the field, together with descriptions of all the leading species, giving their uses and the localities to which they are adapted. Sample packets 15c each, 2 for 25c, 4 for 50c, 9 for $1.00. Choice Flower, Garden, Tree and Palm Seeds, Roses, Flowering Plants etc. Catalogue mailed free upon application.

**Theodore Payne**
SEEDSMAN and NURSERYMAN
**345 So. Main Street**
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**CRIMSON WINTER RHUBARB**

$1.50 a Dozen, $6.00 per 100, $40.00 per 1000

Now is best time to plant Rhubarb.

Berry Plants of All Kinds.

**J. B. Wagner**
**Pasadena, Cal.**
Rhubarb and berry specialist

**Eucalyptus**

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**100,000 BLUE GUMS**
fine, healthy stock.
Write for our Eucalyptus circular.

**Sycamore Grove Nurseries**
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**4584 Pasadena Ave, Los Angeles**

**Eucalyptus Trees**
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Specially prepared for cheap transportation and safe transplanting. Write for particulars to

**HENRY SHAW, Santa Cruz, Cal.**

**THE CLIPPER!**
Will cut tall grass and weeds and do all the trimming along the walks and drives. Your dealer should have them—if he has not drop us a line and we will send circulars and prices.
**Clipper Lawn Mower**
**Dixon, Illinois.**

**Feijoa Sellowiana** A most delicious fruit that can be used for every purpose that an apple is used. Strong plants 75c.

**Pleroma Splendens** with foliage of velvet and royal purple flowers, 75c.

**Avocado or Alligator Pear** Seedlings and budded trees. Many novelties in plants.
**COOLIDGE'S, Pasadena, Cal.**

# The Ornamental Garden

## PLANTS THAT BECOME PESTS IN HAWAII.

THE Territory of Hawaii is compelled to watch the importation of plants and vegetables probably more closely than any state or territory on the mainland, in order to guard against the entrance of pests both of the animal and vegetable types. For the past five years the quarantine maintained by the Territorial Board of Agriculture and Forestry has been very strict and though onerous at times, is very generally supported by public opinion. Many insects and plants which in their native habitat are so controlled by either their natural enemies or by the period of cold weather, that they do not in any sense constitute pests, become very troublesome when brought into a salubrious climate such as Hawaii possesses; and hence great care must be exercised in allowing any new thing to be brought in.

A very striking example in this regard is to be found in the lantana plant (L. Camara—of the verbenaceae group) which is valued all through the United States as a bedding-out or green-house plant, and which is rather difficult to raise north of the Gulf states. Some plant fancier brought the seed of this shrub into the islands some years ago, and now it constittues a thoroughly defined and very troublesome pest. It has obtained a foothold on most of the islands, and has taken possession of large tracts of pasture land, and other uncultivated tracts, where it forms almost impenetrable thickets. Laws have been passed to check its spread, and an insect enemy imported which it was thought would destroy it. This has been of some efficiency, but there is now some uneasiness lest the "lantana blight," as it is called, will refuse to confine its attentions to lantana alone.

On some of the islands cattle men have much trouble with the common North American blackberry and raspberry which here refuse to confine themselves to fence corners and out of the way places, but sometimes take possession of considerable areas of pasture lands. Considerable money has been spent in employing laborers to dig out the roots from the cattle ranges.

The well known Bermuda grass of the south, while furnishing a valuable pasture for stock, causes the sugar planter considerable trouble in Hawaii; while the bugbear of the cotton states, the Johnson grass, is also present here, but does not seem to cause the trouble that it does in some parts of the mainland.—Will J. Cooper.

## YARD AND GARDEN.

If your lawn is larger than you can care for properly, plan now to have it of suitable size by filling in with hardy, thrifty growers that will take care of themselves.

Don't neglect to drop a few seeds of perennials in the bare places this month for bloomers next year. Seedlings cost but little, while plants are expensive. Many beautiful things can be raised from a package of mixed seeds of perennials.

Now is a good time to plan changes in the border and the flower garden, and do not make the same mistake this year and plant the tall growers in front of the low ones; in grouping ill-matched plants and mixing in harmonious colors keep a notebook and pencil in hand.

In arranging the home lot, whether for fruit, shade or ornament, plant the tallest growers well to the rear, grading down to the lowest or creeping things, letting the rows run east to west, that all may have the sunshine. They can thus be seen to the best advantage and prove a joy forever.

Don't buy spongy, soft bulbs if you want good results. The bulbs worth having are solid and heavy. Heavy Dutch bulbs of the single variety make fine plants and give fine spikes of flowers, but many prefer the double-flowered ones for the house. Insist on having good, fresh stock. Send your order early.

## THE HOME FLOWER-PLOT.

If the flower garden crops are not making due progress stimulate them with nitrate of soda. A teaspoonful worked into the soil about a dahlia is about the correct proportion.

Don't get into the habit of sprinkling the surface of the ground, but when your plants need water, apply it generously, or not at all. Water after sunset if possible.

Farm land destroyed by gullies and sandbars from freshet. The farm was abandoned in consequence.


**Burr Clover** The best cover crop. We can offer it at a reasonable figure. Write to us for prices on this and other green manuring crops.

**Get Our Prices on New Crop ALFALFA SEED.**

**Onion** White Bermuda, Red Bermuda, Crystal Wax, New Queen. Now is the time to plant early onions in the Great Inland Valleys of Southern California. And we would especially call your attention to our line of imported onion seed. They are all True to Name and "Full of Life." Get our prices on large quantities.

**Sweet Peas** Plant the early varieties now for flowers this fall. The following varieties bloom in 50 to 60 days from planting. 10c per packet, 3 packets for 25c. ***Morris & Snow's Earliest Pure White*** (Gould). ***Earliest of All,*** pink and white, very early. ***Bodger's Earliest Pink,*** New. Proved a great success last year. As early as the Earliest Pure White. (We control this stock.) ***Mount Blanc,*** pure white.

**Send for Our Catalogue**

**MORRIS & SNOW SEED CO.** 425 So. Main Street Los Angeles, Cal.

**Eucalyptus Trees for Fall Planting**

It has been demonstrated in the San Joaquin Valley that the best time to plant Eucalyptus trees is about the first of November, or as soon as the rains have thoroughly soaked the soil.

We have 200,000 trees of various varieties just the proper size for fall planting. We would advise that you place your order early, as there are very few trees to be had at this time of the year.

**Aggeler & Musser Seed Co.**
**113-115 N. Main St., Los Angeles**

**Seeds**
**Trees Plants Bulbs**
Just received new importation **Holland Bulbs**
HYACINTHS TULIPS NARCISSUS CROCUS IRIS
Plant Now
If you are interested in Best Seeds, send for our Catalogue. Mailed Free.
Trumbull Seed Company
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**BOSTROM'S $15.00 FARM LEVEL**
***With Magnifing Glasses in the Telescope***

enables you to read Target at a distance of over 400 yards, therefore the problem of a FARM LEVEL with TELESCOPE at moderate cost has at last been solved. Voluntary letters from every State in the Union show the complete satisfaction it gives for all kinds of **DRAINAGE WORK, IRRIGATION, DITCHING, TERRACING** and every sort of farm work requiring a Level. GUARANTEED to be absolutely SIMPLE, ACCURATE, DURABLE and dependable in every respect.

***PALACE HARDWARE COMPANY***
Coast Agents
***581 Market Street - San Francisco***
Write for Booklet

**Complete outfit** with full **instructions**, shipped anywhere C. O. D. **$15.00** and express charges. **Subject to Examination.**

**SEED GRAIN**

**Recleaned Red Oats Pure White Australian Wheat**
**Bluestem Wheat Choice Common and Chevalier Barley**
**For Sale at the Lowest Price**
**H. B. Martin & Co., Inc.,** 65-67 So. Market St., San Jose, Cal.

***BEAUTIFUL FLOWERS***

In abundance from December until April if you plant California grown Bulbs. Daffodils, Tulips, Irises, etc. There is nothing finer for garden, window box or naturally in your lawn. Our Bulbs are of the very best in size and condition Choice selection 35c per dozen by mail. Complete catalogue free.

***Leedham Bulb Co.,*** ***Dept. Z SANTA CRUZ, CAL.***

***PACIFIC VEGETABLE COMPANY***
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# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, October 21, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

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## "Eucalyptus Facts."

SOMETHING over a year ago a native Australian appeared in the office of the Cultivator pretending to have a great range of information regarding the eucalypts as they are grown in their native country, and suggested that California was missing a great opportunity in not giving more attention to the growing of the Jarrah, or Eucalyptus Marginata. As it happened we had but a short time previous been seeking information as to the habits of this tree when brought from Australia to this country and had found that in Australia it was a wonderful tree in many respects and produced a wood which had extended uses, but in California no trees had yet been found that had survived more than two or three years. Therefore at the time, the information of our Australian friend was not received in this office with the enthusiasm which he anticipated.

Later, this gentleman returned to his native land and brought to this country large numbers of eucalyptus seeds of all varieties possible. It is probable that in this collection of seeds there may be some which will be of great value. Becoming connected with certain interests which were boosting eucalyptus culture beyond all reason, a supply of "hot air" was supplied daily papers proclaiming the wonderful possibilities of eucalyptus culture. The amount of rot with which these papers have been deluged is astonishing, and has finally stirred up protests from a number, especially the Los Angeles Florists' and Nurserymen's Association against what they claim is a simon pure fake. As one proof of the preposterous claims being made, the Association, in a printed circular issued to endeavor to correct the wrong impressions created by this advertising, quotes a Los Angeles morning paper from an article which points out the great wealth to the city and county of Los Angeles which will accrue from the planting of eucalyptus trees along the right of way of the aqueduct which will conduct water from Inyo county. The article says:

"Within ten years these 25,000,000 trees can be cut at a profit of $100,000,000, which will wipe out the entire cost of the aqueduct and put $75,000,000 in the city treasury besides. This surplus would relieve both Los Angeles city and county from all need of taxation for ten years. Before that time another cutting would yield another $100,000,000, and so on, which means that these trees would lift the burden from both city and county indefinitely."

Such silly statements should have been stopped, but unfortunately they have been published, and unthinking people with little knowledge of growing things have jumped too quickly at conclusions.

The eucalyptus has a wonderful future in California. People are today astounded at the wealth created by this tree, and it is only just to it and to ourselves that we look at it with some degree of reason and not spoil its future by giving currency to such claims.

The report of the society is signed by Messrs. E. Braunton, Chas. Winsel, O. M. Morris, Jacob Dieterich, Theo. Payne, and T. P. Lukens.

## Discouraging

THE lima bean growers are being given quite a thorough disciplining by the big buyers and shippers. So far the bean people are standing pat and giving promise of remaining true to their own best interests, but it must be admitted that they will face a discouraging proposition in attempting to handle the output of their fields so as to secure for themselves a living price. The bean buyers are hammering at the market, and in every way endeavoring to make it so unpleasant for the producers that they will throw up the sponge and follow the same old way of turning over their product to the buyer that he may make his usual big profit from it.

Their habit in the past has been to bear the market by showing all the discouraging features in the early part of the season when they were buying, and then when the full percentage of the crop has been bought, the eastern buyer gets the bull side of the question, and prices are boosted to the utmost possible limit. As a result, the low price to producer and the high price to consumer has discouraged both ends. The bean growers association wishes to correct that if possible, and asserts that it will show the eastern buyer that it can protect the trade, for it has sufficient quantity of the crop in hand to do this. We wish all kinds of success to the association, and hope it will win out in face of the strong opposition.

## An Important Work.

IN A recent issue of the Cultivator reference was made to a meeting of fruit growers of the Sacramento Valley at Newcastle, at which an effort was made to put the fruit growing industry upon a firmer basis by inspiring growers and packers to make a more uniform and attractive pack, and by arousing them to demand of the county supervisors the fulfillment of the law in the appointment of a county horticultural commissioner to advance the industry more than has been done in the past. This Newcastle meeting has apparently created considerable interest, for we note that State Horticultural Commissioner Jeffrey has conducted another such meeting at Loomis this week, and others are planned for Placerville and Lodi later. These meetings will doubtless direct attention to the coming State Fruit Growers Convention to be held at Watsonville where many of the same questions will be discussed. This is a valuable work, and we trust that our state commission will push it in the fruit growing communities.

## Garden Work in California Schools.

THE University of California has issued Circular No. 46 which is filled with suggestions for garden work in California schools. It is written by Prof. E. B. Babcock, and is filled with a number of illustrations which give force to the text. As Mr. Babcock says, "The school garden has come to stay. It is not a fad; it is a fundamental prerequisite to all true nature study, and the value and place of true nature study is now firmly established. School gardens teach among other things private care for public property, economy, honesty, application, concentration, justice, the dignity of labor, and love for the beauties of nature."

Besides containing direct information the circular gives methods of teaching, and closes with a list of books and pointers for teachers showing where to secure further information along this line.

## Mis-Branding Fruits.

THE FOOD AND DRUG ACT is bringing many short weight packages to light as well as causing less adulteration and less use of poisonous preservatives. A circular recently received from the board of food and drug inspection gives numerous cases where California fruits labeled two and a half pounds have been found to contain 34 ounces, including weight of can. "Two pound" cans of string beans packed by an eastern concern were also found to show a gross weight of only 22 ounces. Heavy fines in these cases will probably result in bringing up the packages to full weight or correcting the statements on the labels.

## National Apple Day.

OCTOBER 19TH should receive more attention from fruit growers of the country than it has in the past. It has been designated as the national apple day, and our apple growers at least should see to it that more publicity is given to this day and the attention of the people directed toward giving this luscious fruit a larger share in our diet.

THE THIRD BIENNIAL REPORT of State Horticultural Commissioner Jeffrey is just issued. It not only contains the biennial report and a review of the fruit season, and much information as to quarantine subjects, the white fly campaign, demonstration train service, and other features of the commissioner's work, but in addition has the full proceedings of the Thirty-fifth Convention of Fruit Growers held in Sacramento last December. We doubt not this report will be sent to all fruit growers who may apply to the commission at Sacramento.

THE TWELFTH SEMI-ANNUAL MEETING of the Counties Committee of the California Promotion Committee will be held at Visalia November 13th. This meeting will give particular attention to horticulture in California. This we suppose will be purely from the commercial standpoint, but will doubtless have some interest for producers.

THE CONDITION OF APPLES on October 1st is represented by 43.9 as against 44.5 on the first of September and 54.1 ten years average for same date. This shows that apple conditions this year are materially off. So far as the Pacific Coast is concerned, we believe we will be benefited by these conditions which more largely affect the Eastern growers.

CORN showed a material shrinkage in condition from the first of September to the first of October and is now somewhat lower than the ten years average. There will, however, be a good crop taking the country over. The corn of the country is all produced in twenty states, and California is not on the list.

IT IS SAID that of the seventeen Jersey cows in the world which have produced more than 700 pounds of butter per year, five, or nearly one-third, were bred and developed on one agricultural college farm, that of the state of Missouri. An agricultural college on such advanced ground is worthy of imitation.

# Agricultural News Notes of the Pacific Coast

## Northern California

Petaluma has over one million laying hens.

The town of Orland is contemplating incorporation.

Anderson, Shasta county, will have a prune output of 2000 dried tons.

Nevada county stock men are experimenting with spineless cactus.

Walnuts at Mantone, Tehama county, gave profitable returns this year.

The Petaluma Incubator Co. secured the grand prize for its incubators at the A-Y-P Exposition.

As a general thing the crop reports of Chico are very favorable and producers have made good money this year.

Farmers near Los Molinos, Tehama county, are extending their irrigation system so as to cover 1200 more acres of territory.

A Woodland sugar beet grower has proved conclusively that irrigation has been most profitable to the growing of beets.

Surveyors are now at work on a drainage proposition by which 20,000 acres of fine land near Bieber, Lassen county, will be drained.

Two separate irrigation enterprises are contemplated near Marysville, Yuba county. They will together cover over 20,000 acres of land.

A Woodland vineyardist reports that he fed his grapes to his hogs instead of delivering to the winery trust and received double the price which the winery people offered.

Petaluma received for its shipments of poultry and eggs the sum of $5,798 every day in the year. The total receipts for 1908 were $2,116,604, of which $1,726,601 was for eggs.

The Poultryman's Protective Association held a meeting last Saturday at Petaluma and an effort was started to secure a greater membership among the poultry people of Sonoma county.

Insurance Commissioner Wolf has ordered the California Mutual Livestock Insurance Company to cease doing business in this state. The commissioner has taken charge of the books of the company.

The Examiners for County Horticultural Commissioners hold examinatons at Auburn, Placer county, Nov. 10th, Nevada City, Nov. 12th; Oroville, Nov. 16th; Yuba City, Nov. 17th; Marysville, Nov. 17th.

A heavy rain covered much of the Sacramento Valley on October 1st. Raisins and prunes were injured in many cases. Table grapes on the vines were seriously injured by the heavy rains of the first of the month.

The officers elected at the recent meeting of the State Grange Patrons of Husbandry are as follows: Master, E. P. Pettit, San Jose; Overseer, F. H. Stiles, Tulare; lecturer, F. H. Babcock, San Jose; steward, W. E. Stewart, Danville; assistant steward, Geo. Schymeyer, Elk Grove; chaplain, Mrs. Caroline Emery, Oakland; treasurer, Joseph Holmes, Sacramento; secretary, Emily Burnham, Healdsburg; gate keeper, Cornelius Van Keppel, Santa Rosa.

## Central California

The almond crop of California this year will be about 1200 tons.

A Turlock farmer has found broom corn more profitable than sweet potatoes or fruit.

The farmers union has packing houses which are handling the prunes at Campbell, Saratoga and Gilroy.

It is now estimated that the shipments of apples from the Pajaro Valley will aggregate over 3000 carloads.

Pajaro Valley has already shipped over 1100 cars of apples to Eastern points. Some 35 to 40 acres are shipped daily.

It is anounced that a company has leased 200 acres of land in Fresno county which will be set out to tobacco plants next year.

Porterville has just received its first spraying outfit. In the past it has not been necessary in that section to spray orange trees.

Seventeen representatives of the various forest reserves of California are taking instruction in forestry at the California Hot Springs.

The Spreckels Sugar Co. reports that next year it will pay freight on beets shipped to its factory. It is estimated that this will increase the acreage at least fifty per cent.

The million dollar corporation proposed by a Fresno man has finally taken definite shape, at least to the extent of first steps in its formation.

Raisin growers belonging to the old defunct Raisin Growers Association have been paid another ten per cent in the final cleaning up of the old accounts.

The movement which has started in the hope of getting the Santa Clara Valley prune growers together seems to have failed so far as this year's crop is concerned.

The Delano Water Co., has been organized and is preparing to put in a large plant for furnishing water to Delano, Kern County, and for irrigation near the town.

With grapes almost as cheap as hay, the Central California raisin growers feel that they have just cause for strenuous objections to the present marketing situation.

The state board appointed for the purpose of examing applicants for the position of county horticultural commissioner will hold examinations at Visalia, Nov. 23; Fresno, Nov. 25th.

Failure of crops in many eastern fruit growing sections has resulted in a strong demand for California canned fruit, so that prices for canned goods are now exceptionally good.

It now looks as if the entire Newtown pippin and bellefleur crop of the Pajaro Valley will be picked up by Eastern buyers who have been more anxious for Watsonville fruit than ever in the past.

United States Livestock Inspector Hart and County Veterinarian Petersen of Tulare county have just finished an inspection of the stock of that county, and report them practically free from Texas fever ticks.

## Southern California

One lima bean warehouse at Saticoy recently received 1,800 sacks of beans in one day.

Broom corn in Imperial county is looking exceptionally well and a heavy yield is promised.

The Imperial county farmers union has arrived at the position where it is looking for a business manager.

Imperial Valley producers have been making a strong effort to secure more reasonable freight rates.

Hundreds of acres of pasturage were burned over in the Puente Hills back of Whittier, Los Angeles county.

Imperial Valley hopes to have several tons of Arabian alfalfa seed to distribute in that valley the coming season.

Orange county's chili pepper crop is reported to be short over fifty per cent. Last year's production was so great that prices were very low.

The walnut growers are bleaching their nuts this year by the use of the electric salt solution, most packers preferring the spray to the dipping method.

The Huntington Beach section which heretofore has been a large sugar beet field, will give up much of its acreage next year to the production of lima beans.

The manager of the Golden Orange Association at Redlands recently returned from a trip to the eastern markets, reports a promise for a good year for oranges.

The Richland Walnut Association at Orange now has machinery capable of turning out 30,000 pounds of walnuts daily, which is equivalent to about a sack a minute.

Orange county chili pepper growers expect to receive about twice as much for their output this year as last. Hopes are entertained for fifteen cents per pound.

A forest fire said to have been started by a young man in the Cleveland National Forest caused great damage and fifty dollars was imposed as a fine for carelessness.

The situation in the walnut industry seems to be very favorable and the price of 11½ cents fixed by the association will doubtless be exceeded by some sales outside.

A large reservoir in Mill Creek Canyon, San Bernardino county, belonging to the Edison Power Co. has shifted its position more than twelve inches and its repair will cost thousands of dollars.

The directors of the lima bean association have succeeded in holding the market together and even in advancing the selling price. It is claimed this is due to the agreement not to sell for less than $3.75.

The Imperial Valley has been greatly concerned over false reports which have been published in the San Francisco Call. The Valley papers now report that the Call has said that it "rejoices to learn that the Valley is in no danger of going dry and regrets that information of a contrary character has been given."

## The Coast

There are 150,000 milch cows in Oregon.

Sweet potatoes are selling at $2.50 per hundred in Seattle.

Troy, Idaho, will ship about 50 cars of apples this season.

Lincoln county, Washington, held a good county fair last week.

Three thousand Polish families will establish a colony in Montana.

A sixty foot dam at Weiser, Idaho, will irrigate 20,000 acres of land.

The Washington Agricultural College at Pullman has a class in forestry.

Elberton, Washington, will ship about 25 cars of cured prunes this fall.

A Lewiston, Idaho, melon grower cleared $1,000 from two acres of watermelons.

Over 100,000 sacks of wheat are stacked in one pile at Waterville, Washington.

A farmer at Tekoa, Washington, recently delivered five tons of oats at one load.

Pullman, Washington, will produce only about half of its usual apple crop this year.

A Douglas county, Washington, onion grower has raised an onion weighing 17¼ ounces.

Water will be taken from the River near Gooding, Idaho, to irrigate 500,000 acres of Idaho land.

The first entry for the apple show at Spokane was made by a fruit grower of Green Bluffs, Spokane county.

The state of Washington produces 50,000,000 bushels of cereals, of which about 35,000,000 bushels are wheat.

Railroads have promised concessions to excursionists to the National Apple Show at Spokane, Nov. 15 to 20.

Farmers near Wenatchee, Wash., contemplate a pumping proposition by which 10,000 acres of land will be irrigated.

The poultry exhibit at the county fair at Colfax, Washington, held last week, was better than usual, 250 fowls being shown.

Crops to the value of $3,000,000 were produced this year on lands which were under the Sunnyside Canal near North Yakima, Wash.

The forest service has installed a number of coyote proof fences in the national forest in Oregon to protect sheep which are pastured there.

It is rumored that the Secretary of the Interior contemplates a vast irrigation system on the Pyramid Lake Indian reservation near Reno, Nevada.

The display of livestock at the A-Y-P Exposition is reported to have been exceptional in every sense, and much praise is given to Prof. W. L. Carlyle for his cattle judging.

The Alaska wheat fake which was advertised so largely through the promoters working the newspapers last year, has been denied the use of the mails by the postoffice department.

# Petaluma Incubators and Brooders

***Awarded GRAND PRIZE at Alaska-Yukon-Pacific Exposition, Seattle, Wash.; Two First Prizes and Silver Medal at the late California State Fair***

***Petaluma Poultrymen*** in accordance with their aim of attaining the highest degree of efficiency have steadily selected ***Petaluma Incubators*** and ***Brooders***—the Standard of the World.

We have equipped all the big poultry plants and have several contracts to complete before January 1st, 1910.

One firm of poultrymen has 47 504-egg Petaluma Incubators giving a capacity of 24,000 eggs at one time.

We also have contracts to equip a number of plants with from 10 to 20 504-egg ***Petaluma Incubators,*** besides dozens of poultry ranches with smaller numbers of machines.

***Winners of More Prizes Awarded by World's Fair Judges Than Any Other Make***

We have stated before and we ***again*** state that more Petaluma Incubators and Brooders are used than all other makes combined in Petaluma and all that great section of the country west of the Rocky Mountains, which is more than one-third of the entire United States, and the Petaluma is fast reaching a similar position among Eastern poultrymen. As rapidly as its merits become known does it supplant all other kinds.

## Midland Poultry Feed

Is the best ground mixed feed and hundreds of the successful chicken raisers use no other. Ask for it and take no other.

## Petaluma Incubator Company

**Petaluma, Cal.** **Indianapolis, Ind.**

Our General Agents for Incubators and Brooders and Midland Poultry Food:
**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**

# West Coast Egg Food

***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90, 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

## West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

# White Leghorns

**A Standard Strain of Great Layers**

With our Standard Strain as a foundation and with the ideal conditions that exist at the Model Poultry Farm we have produced a flock of birds this season that for beauty and utility can not be surpassed.

Eggs, Stock and Chicks for sale. Send for descriptive circular of our Stock and Farm.

Address

## Model Poultry Farm

IRVINGTON, ALAMEDA CO. CALIFORNIA

## MRS. C. D. HUBBARD'S WHITE WYANDOTTES

Eggs for hatching September 1st '09. Write for circular.

BOX 60, ROUTE NO. 1 SAN FERNANDO CAL


# Profit in the Poultry Yard

We solicit short articles of a practical nature from the farmer and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

### BLACKHEAD AND WHITE DIARRHOEA.

WE HAVE reason to believe that these diseases are becoming increasingly prevalent in the west. Our correspondence shows that they have worked their destructive course through many poultry yards this season and no doubt will appear again next season, unless precautions are taken to prevent them.

Blackhead in turkeys and white diarrhoea in chickens come from the same organism. Of this there is now little doubt. This organism is a member of the family Coccidium and it has been settled as being almost certain that it is the cause of both these diseases. Two or three years ago the Rhode Island experiment station announced the belief that blackhead in turkeys came through infection from domestic fowls (chickens), which were then thought to be immune from the disease, except, perhaps, in rare cases. German investigators, and biologists in this country, later concluded that chickens were infected with the same germ that appeared in black head, but the manifestation appeared in the form of white diarrhoea in chickens. Probably the diseases are caused by different stages of the growth of the deadly germs.

Professor Bradley, of Rhode Island, writes us that no remedy has been found, but having discovered the cause he seems hopeful of being able to find the cure.

All we now can do is to use preventive measures and the time to begin is now, so as to be protected next spring.

The thing to do is to use extra precautions to prevent the existence of the germs through the winter. The free use of disinfectants all around the poultry houses, absolute cleanliness and the regular use of epsom salts will do much to keep the flocks safe. We have great faith in epsom salts in caring for poultry of all kinds. It is a laxative and it also keeps the coating of the stomach and intestines free from the mucus which forms an ideal breeding place for germs. We learned to use this from English breeders and we believe its regular use in this country would result in great benefit.

The best way to administer it is by giving it in a mash. For regular use dissolve the salts in a little water and use this water in mixing a mash of middlings, cornmeal or any other ground feed. Do not make enough of the mash for a full feed so as to be sure all of it will be quickly eaten. The dose is a teasponful for ten old fowls or twenty young ones, proportioning the dose between these extremes according to the age. If a little too much is given no harm will result as the salts are not poisonous, except in very large doses. For half grown turkeys the dose would be the same as for full grown hens. For old turkeys up to a quarter of a teaspoonful may be used. Give the fowls a dose of this once a week. Use disinfectants about the poultry house. Sprinkle air slacked lime about the floors and the poultry yard and use every means to keep the fowls healthy and vigorous. Constant attention along this line will do much to keep away all diseases.—Poultry.

### TURKEY RAISING IS PROFITABLE

When we consider the good prices obtained for turkeys at the holiday season it is surprising that more farmers do not raise them, says the Wisconsin Agriculturist. Many do not keep turkeys because of their inclination to wander from home and perhaps because of their determination to live upon their neighbor's bounteous crops. To wander is one of the instincts of the wild bird from which the domestic turkey is descended, which has not been bred out of the time fowl. Turkeys that are real turkeys will always wander. If they are managed properly there will not be such a tendency to wander. If they are fed regularly at regular places around the barns and other buildings they will not get away so far that they cannot return in time for the regular meal. Turkeys love insect life, and when this is abundant they enjoy the woods and meadows.

As a rule turkeys do little harm to growing grain; in fact by picking the insect life they destroy the enemies of plant life, unless the flock of turkeys is so large that the grain is trampled down or the green shoots are eaten by them. Turkeys keep in much better health when they are permitted to wander over the fields, woods and highways, and they pick up a very large portion of their food. They do not do well in confinement. Their nature is wild and they must have freedom.

Turkeys are probably the choicest fowls that can be taken to market, and bring the highest price. Of all fowls perhaps the turkey requires the most care and attention during the first few weeks following incubation. But they are not "hard to raise" if you once learn the secret. The young birds are delicate, and very susceptible to changing weather conditions. They must be protected. Rainy or foggy weather is especially fatal to them.

Lice and overfeeding kill more young turkeys than all other causes combined. They are susceptible to liver trouble, or, in other words, if overfed, too much work is thrown upon the liver, which results in a diseased condition of that organ. If you are losing turkeys, hold a post mortem examination of their bodies, and in nine cases out of ten you will find the liver blotched in appearance and covered with yellow spots. We know of some turkey raisers who use calomel tablets, which give them relief if used in time. This condition of the liver is nothing more than what is termed "blackhead" in older birds.

Feed the little poults often and only a little at a time. See to it that they are always protected from the cold and rain. A young turkey is instinctively an ignorant thing, rushes headlong into danger, and seldom knows enough to get clear of an approaching storm or to come in when it

"Let the Hen Do the Work"

Coulson's
EGG FOOD

At this time of year the hens are apt to begin falling off in their laying, and it is necessary for poultrymen to keep them up as long as possible. If they stop laying too early and start molting, they are likely either to take a long time over the molt, or if they molt quickly to have another molt in the late fall.

A scientifically prepared Poultry Food like COULSON'S EGG FOOD, fed at this time will help greatly to keep the hens laying up to and well into their molting time, with consequent satisfactory profit to their owners.

Remember that all egg foods are by no means alike, and it is advisable for you to buy a brand that has stood the test of time.

COULSON'S EGG FOOD is therefore what you want to give you RESULTS, and keep your flock in healthy condition for the molt.

For sale by dealers everywhere. Write for our free book "Poultry Feeding for Profit" with samples of our Poultry Food.

Coulson Poultry & Stock Food Co.

Petaluma, California

GERMAIN SEED CO., Los Angeles
Distributing Agents for
Southern California

rains. Always keep them well supplied with grit and water. The first week or two feed bread crumbs that have been slightly moistened in water or milk. Then gradually work cottage cheese into the bill of fare. Turkeys are seed-eaters and bug-eaters. As they grow older let the mother bird run with them through the grass so they may learn where the best feeding grounds are. As the summer season progresses induce them to come home to roost by scattering some tempting grain around the farm buildings at night. No other fowls will forage as well as turkeys through the summer and autumn and transform insects and weed seeds into the most tender and best-flavored flesh. Many people think that a turkey will eat more than a hog and is therefore unprofitable. This is not true. During the summer they pick their own food. The cost of raising a turkey is less than that of raising a chicken, and a turkey weighs more and sells for more per pound.

## POULTRY QUERIES.

### Melon Seeds Harmful.

Having read your reply in last week's Cultivator to query as to feeding melon seeds. and having had some experience in that line, I feel it my duty to say that melon seeds in large quantities, as well as grapes, are harmful to poultry. I have raised hundreds of chickens and turkeys each year, along with melons. No doubt melon seeds and rinds throw out from time to time would produce no noticeably ill effects, but having large waste of both grapes and melons as we do here on the ranch, we have found them injurious. The poultry, in their greed for this luxury, will leave more substantial feed, and the acid in both and the lack of nourishing qualities, weaken their systems. With the days and nights yet warm the fowls may exist, but the chilly nights and weakened systems soon tell the tale of injury, and symptoms such as were described in the former query, appear. If from this cause they have become poor and mere skeletons, I would suggest separating the weak ones in a little run by themselves, with a warm roosting place, and giving them mashes with a little chili or condition powders.—Mrs. C. O. Hayward, Thermal.

It is stated that spraying the hen house with a very strong solution of common salt will as effectively destroy lice and mites as other mixtures commonly used. Clean out thoroughly the hen house before spraying, and do the work in the morning, giving the salt a chance to crystallize before night.

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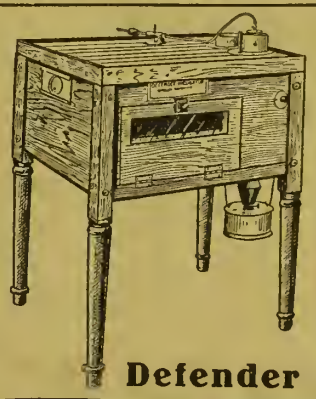

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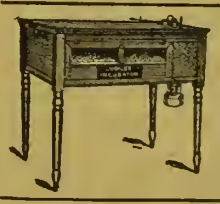

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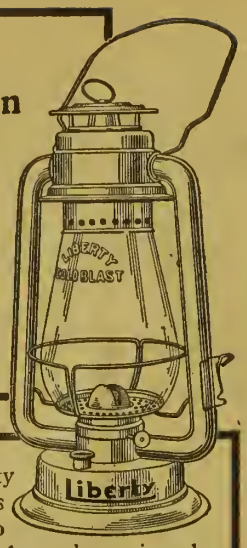


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# General Agriculture

## AGRICULTURE IN ALASKA.

PROPHECIES when considered in the years after their delivery are always interesting, and so perhaps the words delivered by President Roosevelt, when addressing an audience at Seattle in 1903, are curiously effective in the light of their partial fulfillment today, and the certainty of their absolute realization within a short time. He said:

"The men of my age, who are in this audience, will not be old men before they see one of the greatest and most populous states of the entire Union in Alaska. I predict that Alaska within the next century, will support as large a population as does the entire Scandinavian peninsula of Europe, the people of which by their brains and energies have left their mark on the face of Europe. I predict that you will see Alaska with her resources of minerals, her fisheries and her possibilities that almost exceed belief produce as hardy and vigorous a race as any part of America."

Professor C. C. Georgeson, the special agent of the Department of Agriculture, in charge of investigations in Aaska has borne out the prophecy, in a recent interview, for he has said:

"The impression that Alaska is a barren, snow-covered waste is well nigh universal. But during the last half-dozen years the reports of returning Klondikers, who have seen the luxuriance of the vegetation and have tasted the delicious qualities of Alaska vegetables, have somewhat modified the illusions in regard to the Northland on this subject. Alaska has great agricultural possibilities, but as in all northern countries the possibilities are limited to the culture of hardy crops. An inhabitant of the central West is apt to think that a country that cannot produce corn is of little value agriculturally. He forgets that corn is not grown in the most populous and most distinctly agricultural countries of Europe. Corn is not grown in England, in northern Germany, in Denmark, in Sweden, in Norway, or in the vast expanse of Russia and Siberia, north of the fiftieth parallel. Alaska's possibilities are limited in grain crops to the growth of barley, oats, rye, buckwheat and some wheat. All the hardy vegetables are grown successfully—potatoes, cabbage, cauliflower, rutabagas, turnips, carrots, parsnips, peas, lettuce, raddishes, rhubarb, etc., but, it is a revelation to most people that even these crops can be grown there.

"The area of Alaska is, in round numbers, 590,000 square miles. Out of this total area it is estimated that approximately 100,000 square miles can be utilized for agricultural and for grazing purposes. The territory has never been surveyed, and we have therefore no acurate data on which to base estimates, but in round numbers the lands that can be converted into agricultural and grazing lands are distributed as follows: In the coast region 15,000 square miles; in the Yukon valley about 30,000 square miles; the Tanana valley, 15,000 square miles; the Copper River valley, 15,000 square miles; the Susitna and Matanuska valleys, about 15,000 square miles; and the Kuskokwim valley, 10,000 square miles.

"That the hardy vegetables can be grown in all of the valleys up to the Arctic Circle, and even beyond, has been demonstrated by miners, prospectors, and other settlers in Alaska for many years past. There is no longer any dispute on this question. Not only can vegetables be grown, but Alaska produce is the finest in the world in point of quality. By reason of the long hours of daylight, the growth is very rapid, which produces a crispness and flavor that are not approached by vegetables grown under a scorching sun.

"That barley, oats, rye, and wheat can be grown in Alaska has been demonstrated at the Government experiment stations. An experiment station has been maintained for eight years past at Rampart, in the Yukon valley in latitude 65 degrees 31 min. At this station, we have never failed to mature barley and oats, and in some seasons when the snow fall was sufficient to protect winter grains we have also matured winter rye and winter wheat.

"More recently the Government has attempted to experiment with cattle raising on a large scale. A small herd of purebred Galloways has been imported and a cattle-breeding station has been established at Kodiak, on Kodiak Island. The Galloways were selected because they are by nature adapted to a cold and wet climate. They are a beef cattle, but some among them are good milkers, and one of the experiments which have been outlined is to develop their milking qualities and thus make the Galloways an all-purpose breed, which will meet the needs of settlers in Alaska.

"The question is frequently asked if Alaska will ever be settled with farmers. This can be answered in the affirmative. The territory has a special homestead law that permits a person with homestead rights to take up 320 acres subject to the provisions of the law. Several hundreds of men and women have taken advantage of this act, and these are now among the pioneer farmers of the territory. When located near a good local market, they receive high prices for their produce, which consists chiefly of vegetables, berries and hay. The price received for these articles is governed by the cost of transportation of similar produce from Puget Sound.

## EXAMINATIONS FOR FORESTRY SERVICES.

Examinations will be given in various cities of California on October 25th to 26th to determine qualifications of applicants for positions in the forest service. They will be held in Los Angeles, San Diego, Santa Barbara, San Luis Obispo, Hot Springs, Yreka, Alturas, Salinas, Sonoma, Quincy, Sisson, North Forks, Weaverville, and Nevada City.

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Mr. Hackett and his son were discussing their new barn.

"Well, Dad, how about the roof?"

"I guess shingles are good enough, aren't they?"

"Now hold on, Dad—'good enough' don't go. You know that shingles don't make a perfect roof by a long shot—burn too easy and sure to leak."

"How about slate?"

"No! Too expensive—winds' too strong around here—and we couldn't lay 'em ourselves."

"Well, why not try one of the best of those prepared roofings that come in rolls?"

"Fine! I've seen it tested—one brand, Rex Flintkote Roofing, was the greatest stuff I ever saw—wouldn't catch fire from live coals—waterproof, too."

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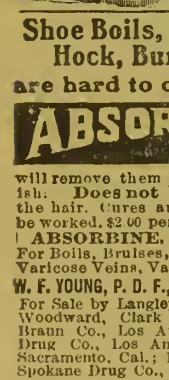

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# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Lung Worms.

Some of my calves began coughing and grew so thin and weak that they could hardly stand, and some died. Examination of dead body showed presence of thread like worms three inches in length in the lungs. Calves had been pastured in an orchard where there were many fallen apples. Could this have caused the condition? Is smoking with sulphur of any value?—J. A. G., Ferndale.

This trouble is not contagious, but is infectious. The animal affected should be promptly removed from healthy ones. The pastures must be treated carefully to kill the eggs or larvae in wet weather. These worms increase with great rapidity. Burning off infected land and then plowing it up and planting a green crop that is again turned under, will free it from the eggs. Stagnant water will also hold and pass them along. The treatment is not very successful, but fortunately is simple. Take the infected animals and put them under shelter in a building where they can be kept warm and fed well. Coat the ground or floor of this building every day with oil of creosote, or with crude oil made lighter with engine distillate. This will prevent the reinfection of the calves. Stamping out the trouble is to be considered rather than saving the calves already affected. Have the druggist make a mixture of equal parts of ether, chloroform, and oil of turpentine. Hold the calf's head up slightly and pour a teaspoonful down the nostril, continue holding the head for one minute then repeat on the other nostril. Add some oil meal boiled to warm new milk and feed several times a day. Turn attention to stopping the disease by cleaning up the source of the trouble. If the ditch comes from land infected by this trouble it would certainly carry it. I believe this trouble has been in Humboldt county for some time. The only time I ever saw it was some ten years ago when a large number of calves were brought from there to Fresno county. Many proved to be affected and yet the disease was stamped out here at once so that it has not reappeared, after the first lot brought had either passed away or been cured. The dry heat was enough to destroy it completely, Dr. Stiles of the government service was in charge of an outbreak of this trouble in Texas some years ago. Down there it attacked grown steers as well as calves. In summing up his report to the government, he says: "I know of no treatment which can be relied upon to kill the lung worms of cattle and sheep, and I believe their effects upon the health of the animals have been greatly exaggerated, except, of course, in very severe infections. Fumigation and all the forms of fumes were tried and reported on in the suppression of the Texas outbreak. They are not regarded as helpful. Where used strong enough to produce pneumonia and death in the steers treated, the worms were not affected.—M. E. S.

### Sorghum.

I have sorghum planted on 20 acres, from which I already have made two cuttings of about seven tons and will get another in November of three tons per acre. I would like either to get rid of this stubble, or better still, replant it to sorghum next spring. It is the Red Top variety. The experience here is that the land, the year following the sorghum crop is almost worthless for anything else, owing to the roots it leaves, and even with corn, the sorghum will spring up all over the field and outgrow the corn. It is claimed that sorghum exhausts the land and should not be grown for more than one year. Is this so?

Would it be safe to plant sorghum again on this land? If not, what crop would you suggest? Should the sorghum be plowed up before or after it becomes dormant this winter?—T. M. P., Mercedes, Tex.

I should not hesitate to plant land again to sorghum. A little fertilizer would not cost as much as replanting a piece of any size. Is it necessary however to use it? I have been using sorghum to clean off land infested with morning glory and have one patch that has grown sorghum for the seventh year. I cannot see that this summer's crop is any lighter than last season's. This land has not been fertilized, but has been planted every winter to either oats and peas or barley and peas. The sorghum land after the last crop has been harvested is pastured off by cattle and as soon as the rains fall, usually in December, the plows start in on it. We grow the Early Amber variety and it does not trouble us with roots that are unmanageable. When we grow the non-saccharine varieties, we find the roots have to be cleaned off. This is quickly done by running a heavy straight toothed cultivator over the land to bunch them in long windrows, which are burned off after three weeks and give no further trouble. If the sorghum is in drill rows, we find that on clean land not infested with morning glory it pays to drill in peas before the sorghum is cut and then after cutting let the peas grow for a winter crop. After all the green peas have been sold that the market will take, the vines and peas on them are harvested for hay or may be put into the silo. The land is then ready for sorghum once more. The greatest difficulty with sorghum is overcome by sowing in long drill rows three feet apart and cultivating it well. I think here in California that any difficulty coming from sorghum impoverishing the land is from lack of moisture during the growing season. Whenever a crop will stand all sorts of hardships it is apt to receive them. Sorghum will make a crop with a minimum amount of water, and only a trifle of cultivation, yet if it is well irrigated and well cultivated it will make four or five cuttings in the season just as well as three, the usual number.

I would plant peas if sorghum is not wanted again. Plow while dormant to destroy the roots if the land is to be cleaned up. Next summer corn or sorghum will give a good crop after the peas are off. I have only been able to give you the way I handle this crop at home here for I am not familiar with the Texas conditions.—M. E. S.

### Inoculation of Alfalfa.

Please give method of inoculating alfalfa seed with soil from good alfalfa field. What is your opinion of Turkestan and Arabian varieties?—L. M. L., Chino.

For inoculating alfalfa land the best growing spot in the old alfalfa field is selected and vigorous plants chosen. They are dug up and the roots examined. If well set with nodules, the surrounding soil to a depth of eighteen inches is taken for inoculating and placed in a barrel at once and covered to keep the sun from it. One barrel of the 60 gallon size, filled with soil, is enough for one hundred pounds of seed. The soil is taken into the packing house and spread on the floor or on sweat boxes, two inches deep. It is then covered well with alfalfa seeds. Use a rose nozzle watering can to sprinkle the water on it. Wait a few minutes, then turn the earth over the seed with a hoe, working it like mortar. If not enough water has been used, add more, or if too much, add some earth. This is done in the afternoon and the next morning the seed is sown. Avoid exposing the seed to the light, and harrow it as quickly as possible. I have pulled up alfalfa planted in this way when three inches high, and found two nodules on the roots. When the plants are a foot high they will be found to have the roots well studded with them.

Turkestan alfalfa has the advantage of greater hardness. It will stand drought better than the common variety and also grows at a lower temperature. It will not in its main crops give any more hay, but it comes on earlier in the spring and may be cut for soiling long before the other alfalfa. The Arabian is not quite as hardy as the Chilean and makes less winter growth, but grows taller in the summer heat. I have not had enough experience to say if the crop is much greater. I often think these newer varieties have the advantage of better care than the commoner things we grow. The things that we are trying on the side interest us most and are therefore a little better treated. With cows this is certainly true, for Alex would fight if any one slighted or hurt Minnewawa Juliana, while in the case of other cows he would simply be very cross. We all make favorites of certain things. I have one acre of Turkestan alfalfa planted last year and a few strips two feet wide and thirty long of several varieties of Arabian. Last spring was very unusual in the long drought beginning in March. I did not secure much of a stand on any of this land, but have a few plants that I have nursed through the summer, I hope they will give better results next season.—M. E. S.

### Irrigating Peas.

I have peas planted the latter part of September and the first part of October. How wet should the ground be kept, if they are to be irrigated at all? They are planted in drills in orange orchard and are intended for market.—A. M. W., Success.

Necessity for irrigation is determined by lack of rainfall or otherwise, and the general condition of the soil where the peas are planted. By examining the plants to see if they are growing thriftily you can tell when they are in need of irrigating. Wherever peas are planted in an orchard the ground should be left so that furrows can be filled with water at any time.

### Self Milkers.

We have a cure for self milkers which we saw in an eastern paper. I have found it a good thing and wish to pass it on. I have not found the stake attched to surcingle a success. My plan is simply to use the ordinary bull ring with two other smaller rings attached. This has proved entirely satisfactory with our cow.—A. H. Hurlburt, Santa Cruz.

This may prove successful in some instances, but, as Mrs. Sherman will say in her department next week, there are cases where even it is not satisfactory.


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### El Cajon Valley.

Are the conditions in El Cajon Valley, San Diego County, favorable to the growing of almonds and walnuts? It is sometimes very hot in the summer and light frosts come in tho winter. Soil is decomposed granite, very deep.—Subscriber, El Cajon.

It is very difficult to say without more definite knowledge as to the possibilities of those two nuts in that section. We have learned of walnut orchards planted in this Valley which after several years growth proved unprofitable. This, however, was said to be partly due to the fact that the sub-soil was impregnated with alkali, and when the roots entered this soil they were destroyed. The deep soil which you mention should be suitable. Frost in winter when the trees are perfectly dormant would do no harm, and would not be injurious except at blossoming time or after. This question will be referred to one of our field workers who will later give more definite information. Walnuts are subject to sunburn which makes them not an ideal hot section product.

### Gum Disease.

What treatment is advised for gum disease on orange trees?—D. R., Arlington.

See answer to similar query in last week's paper, and write to Agricultural Experiment Station, College of Agriculture, Berkeley, Cal., for Bulletin No. 200 which gives a detailed description of the disease and its treatment.

### Orange Seed.

What kind of orange seed is best to plant? I wish to start some trees for myself. They are to be budded to navels. Where can seeds be obtained and what variety is best to plant?—P. E., Redlands.

The kind of seed to plant depends somewhat upon soil conditions in which trees are to be finally placed. If in heavy or damp soil where there may be danger of gum disease, the sour stock is usually preferred, otherwise, either the sweet seedling or pomelo seeds are satisfactory. The greater proportion of our trees is grown on sweet seedling stock. If you are near a sweet seedling orchard, you probably can secure culls and rot them down and secure your own seed, or you can buy them of any seed house. Seeds should be planted in the springtime, March or April.

### Windmills for Irrigation.

Is the windmill of sufficient power to prove practicable? Does it have capacity enough to supply any head? Do not the people of Holland use them for irrigation? What do the mills at Sutro Heights accomplish, and what is their capacity? Is the over shot or Jumbo mill of any value? What would be the limit of power and capacity, say with a lift of 150 feet? We have a strong north wind that blows about six months in the year.—T. G., Greenfield.

It would be impossible to answer all the foregoing questions without knowing further particulars. In a general way we may say that any such lift as 150 feet would be out of the question with a windmill. In fact, anything more than twenty or thirty feet requires so much power that the windmill would not be practical. We presume they are used in Holland for irrigation purposes. We know they are very largely used in Florin, Sacramento county, where one mill is required for about every two acres in the small fruit growing section. The lift is very slight and the small stream is changed from day to day and the wind mills do very well. These mills are very cheaply made, in fact, are the home made stationary mills, always catching the wind from the one direction. They are not the over shot, which we do not think have proved successful, at least have not been generally accepted. We cannot say as to the mills at Sutro Heights. We have regarded them more as an ornamental feature than as of any practical use. The number of miner's inches and the capacity would depend so much on the velocity of the wind and its permanence, that without definite figures a definite answer could not be given. As a rule, we think the gas engine has proved more satisfactory, and certainly if any material quantity of water is desired, it would be necessary.

### Churning Problem.

I have a cow that has been fresh six weeks, but I am unable to make butter from her milk. I feed alfalfa. Before being fresh she made fine butter. The milk seems to have plenty of cream, but churns to a thick oil. She gives five gallons a day, before about one and one-half gallons. Have tried a few sweet potatoes, but to no avail.—T. H. W., Anaheim.

Try making the temperature of the cream at churning time lower and give the cow a little rolled barley to harden things up a little.

If you could secure a little buttermilk from a neighbor and add it to the cream a few hours before churning this active bacteria of one form might be brought under control. High temperature of milk or cream will throw up the oil of butter often from fresh milk. In the summer I often notice some clear oil floating on the milk when it is turned into the milk vat. I never saw this in cool weather so believe that temperature has more to do with it than anything else.—M. E. S.

### APPLE KING OF AMERICA.

This title belongs to Judge Fred Wellhouse, of Topeka, Kansas, who owns over 1600 acres devoted to apple trees, and who has made apple growing a life study. Writing about Judge Wellhouse in "Surburban Life," Hon. F. D. Coburn, secretary of the Kansas State Board of Agriculture, says: "When in the late seventies he was planting 437 acres to apple trees in Leavenworth county, Kansas, many of his neighbors looked upon him as well-nigh demented. Over four hundred acres in orchard; it was astonishing! So said the croakers; but Wellhouse, undaunted and undiscouraged, worked on unmindful of the bantering and rallying, and the outcome justified his faith in Kansas and himself and forever silenced those who doubted."—Green's Fruit Grower.


# Classified Liners

Rates 1½ cents per word per issue No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

## MISCELLANEOUS.

THE ANCHOR EGG SEPARATOR works perfectly; no well regulated hotel or household can afford to be without it." So says Delmonico's Chef. Send ten cents or ten names of persons keeping poultry, and we will send one postpaid. Or for 25 names we will also send postpaid "THE POULTRY MANUAL" by those high authorities, F. L. Sewell and Ida R. Tilson, profusely illustrated. WEST COAST MILL CO., 705-709 So. Griffin Ave., Los Angeles, Cal.

A LABOR SAVER FOR WOMEN. Send 10 cents for three weeks trial. Electric Laundry Compound, washes clothes without rubbing. Saves time, labor, and clothes. No lime, lye or acids. Eight washings 25 cents. Money back if not satisfied. ELECTRIC COMPOUND CO., 823 S. Spring St., Los Angeles, Cal.

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HEALTH—LATEST SCIENTIFIC DISCOVERY. You positively can renew your youth and prolong your life. Our book "How to Live 100 Years" and 15 sheets of instructions for 50 cents. NATIONAL HEALTH LEAGUE, 545 Douglas Blk., Los Angeles, Cal.

A GOOD INVESTMENT. MOST MEN are working for money. The wise man makes his money work for him. Write for prospectus. COLUMBIA COMMERCIAL COMPANY, 204 East 9th street, Los Angeles, Cal.

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FOR SALE CHEAP—STRAWBERRY plants. Brandywine and British Queen 50c a hundred or $2.50 a thousand. Lawton blackberries, a fine canning berry, and Red Logans, a fine preserving berry. FRANK LIMA, Sebastopol, Cal.

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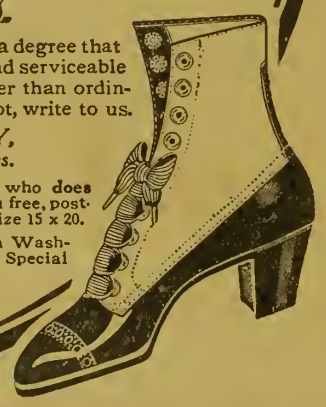
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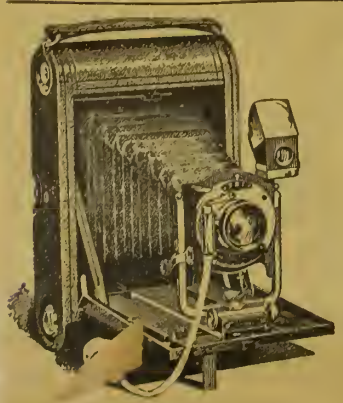
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# Household Department

## THE LAND OF NOD.

From breakfast on through all the day
At home among my friends I stay;
But every night I go abroad
Afar into the land of Nod.

All by myself I have to go,
With none to tell me what to do—
All alone beside the streams
And up the mountain-sides of dreams.

The strangest things are there for me,
Both things to eat and things to see,
And many frightening sights abroad
Till morning in the land of Nod.

Try as I like to find the way,
I never can get back by day,
Nor can remember plain and clear
The curious music that I hear.

—Robert Louis Stevenson.

## HOW TO MAKE LIFE PLEASANT.

IT IS a secret worth learning, to know how to be cheerful one's self, and how to make other people, and especially the home circle, happy. Some people seem to live in perpetual sunshine and wherever they go carry sunshine with them; others diffuse a kind of chillness and gloom and are always managing to say uncomfortable things. There are some persons who seem to treasure up things that are disagreeable on purpose. I can understand how a boy that never had been taught better, might carry torpedoes in his pocket, and delight to throw them down at the feet of passers-by and see them bound; but I cannot understand how an instructed and well meaning person could do such a thing. And yet there are men that carry torpedoes all their life, and take pleasure in tossing them at people. "O," they say, "I have something now, and when I meet that man I will give it to him!" And they wait for the right company, and the right circumstances, and then they out with the most disagreeable things. Have you a right to take up any little story that you can pick up about a man, and use it in such a way as to injure him, or give him pain? And yet how many there are that seem to enjoy nothing so much as inflicting exquisite suffering upon a man in this way, when he cannot help himself! Well, you know just how the devil feels! Whenever he has made somebody very unhappy, and laughs, he feels just as, for the time being, you feel, when you have done a cruel thing, and somebody is hurt, and it does you good.

This bears on another point—that of saying pleasing things instead of disagreeable things. There is a person that never fails to say a pleasant thing when I meet him. If for the sake of saying a pleasant thing he ever said an untrue thing, I should be sorry; but I trust that all of us do things in one place or another that are sufficiently praiseworthy to justify their being pleasantly spoken of; and I would rather have a person take notice of my good points than of my bad, and speak of them. It makes me happier, and I feel better toward everybody else. I suppose you feel happy when you are praised, do you not? I suppose that, for the time being, you feel benevolent. But this saying of pleasant things is often inveighed against by persons who, not being alive to the duty of pleasing, and not having a natural desire to please, think that many of these little attentions which people bestow on each other are foolish. For instance, if, meeting you, I see anything pleasant about you, and say, "You are looking well," they stand back and say, "Flattering him! telling him that he looks well! Suppose he is handsome, is that any reason he should be told of it?" Yes, if being told it adds to his happiness. If a person meets a friends and says, "This is a charming dress you have on," they say, "Why should you talk to her about her dress, and tell her that it is beautiful?" Because it will please her.

If a man has done anything that is creditable; if he has written an article, or issued a poem, or made a speech, or effected a bargain, or built a house, or done anything else that reflects credit upon him, is it best to praise him for that, or to find fault with him for something he has done that is not so creditable? Is it best to encourage men by commending them for that part of their conduct which is commendable, or to discourage them by holding up to condemnation that part of their conduct which is faulty? I know that there is danger of going to extremes in this direction; and yet it is right for us to maintain a thousand courtesies that tend to give pleasure, and to avoid many rudenesses that tend to give pain. Choose things that will please men. Nutgalls are not the only things in the world. There are roses and honeysuckles. Wasps are not the only things in the world. There is honey as well.

In the family, the law of pleasing ought to extend from the highest to the lowest. You are bound to please your children; and your children are bound to please each other, and you are bound to please your servants, if you expect them to please you. Some men are pleasant in the household, and nowhere else. I have known such men. They were good fathers and kind husbands. If you had seen them in their own houses, you would have thought that they were angels, almost; but if you had seen them in the street, or in the store, or anywhere else outside of their houses, you would have thought them almost demoniac. But the opposite is apt to be the case. When we are among our neighbors, or among strangers, we hold ourselves with self-respect, and endeavor to act with propriety; but when we get home we say to ourselves, "I have played a part long enough, and am now going to be natural." So we sit down, and are ugly, and snappish, and blunt, and disagreeable. We lay aside the thousand little courtesies that make the roughest floor smooth, that make the hardest things like velvet, and that make life pleasant. We expend all our politeness in places where it will be profitable—where it will bring silver and gold.

My friends, our kindness should begin at home. It should not stay there; but there it should begin, and there it should be nourished. And nowhere else should you be so considerate of politeness as in your own house, when there is nobody there but your wife and children; for what has a man that is worth more to him than his wife and children!—Orffs Review.

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## Northwestern Pacific

**Schedule Effective September 15, 1909**

**UNION FERRY DEPOT San Francisco**

| Leave | VIA SAUSALITO | Arrive |
|---|---|---|
| 7:45a | Petaluma, Santa Rosa, Healdsburg, Cloverdale, Ukiah, Willits, Sherwood, *Sebastopol, *Guerneville | 7:35p |
| 8:15a | Pt. Reyes, Monte Rio, Cazadero | †7:05p |
| 8:15a | Sonoma and Glen Ellen | 6:05p |
| 8:45a | Petaluma, Santa Rosa, Guerneville | †7:05p |
| 12:45p | Pt. Reyes, Monte Rio, Duncan Mills | †7:35p |
| 3:15p | Petaluma, Santa Rosa, Healdsburg, Cloverdale, Ukiah, Guerneville, Riverlanding, Sebastopol. | 11:05a |
| 4:45p | Sonoma, and Glen Ellen | 9:35a |
| 5:15p | Petaluma and Santa Rosa.. | 8:35a |

**ELECTRIC SUBURBAN VIA SAUSALITO**

**Sausalito, Mill Valley, San Rafael**—Daily every 30 minutes from 6:45 a. m. until 9:45 a. m.; hourly until 2:45 p m., then 3:15 p. m. and every 30 minutes until 7:45 p. m., then 9:00, 10:35 p m. and 12:01 a. m. (On Sundays In addition—Every 30 minutes from 9:45 a. m. to 3:15 p. m., excepting 2:15 p. m.)

**Fairfax**—Leaves †6:45, 7:15, 7:45, 8:15, 8:45, 9:15, 9:45, ‡10:15, 10:45, ‡11:15, 11:45, a. m.; ‡12:15, 12:45, ‡1:15, 1:45, 2:45, 3:15, 3:45, 4:15, 4:45, 5:15, 5:45, 6:15, †6:45, 7:45 p. m.

**San Quentin via San Rafael**—Leave 9:15 a. m., 1:15 p. m.

**Tiburon and Belvedere**—Week days, 7:30, 9:00, §11:45 a. m. (§12:45 p. m. Saturdays only), 3:30, 5:30 p. m. Sundays—7:30, 10:00, 11:00 a. m; 12:30, 3:30, 5:30 p. m and §12:01 a. m.

*Sunday arrive 7:05 p. m. †Except Sunday. ‡Sunday only. *Saturday only. §Via Sausalito.

Pacific Transfer Company's agents are authorized to check baggage direct from residences.

### PINEAPPLE RECIPES.

**Pineapple Pie.**

Line a ten-inch pie plate with any good pastry crust and fill with a can of crushed or grated pineapple to which has been added a full cup of sugar and a teaspoonful of cornstarch moistened in water. If a larger pie is wanted from one can of fruit, add tart, juicy apples, sliced or chopped.

**Pineapple Tarts.**

Make good butter pastry, roll out very thin and line twelve small or six large patty tins. Divide the contents of a can of Hawaiian Pineapple, either grated or crushed, equally among the tarts, adding a small teaspoonful of sugar if a sweet, rich tart is liked. Bake very quickly and serve fresh.

**Hawaiian Pineapple with Cherries.**

If an ornamental dish is desired, add to a can of Sliced Hawaiian Pineapple one small bottle of Maraschino cherries. This may be served in sherbet glasses if preferred by cutting the pineapple into sections.

**Hawaiian Pineapple Salad.**

Sliced Hawaiian pineapple makes an excellent salad course for a ladies' luncheon. Serve it with other fruits or alone, dressed with mayonnaise or French dressing on lettuce leaves. It is excellent when mixed with grapefruit, tart apples or halved Malaga grapes. The syrup should be drained off and reserved for sherbets or pudding sauces.

**Pineapple Shortcake.**

Make a rich biscuit crust, very short and slightly sweetened. Bake in a sheet or round fully an inch thick. Split while hot and butter generously, spreading the top thickly with crushed or grated pineapple. Serve with or without cream.

**Pineapple Jelly.**

Soak a box of gelatine in a cup of cold water until it is soft. Add a lemon sliced thin without removing the rind and two cups of sugar. Dissolve with three large cups of boiling water and strain through cheese cloth or a very fine sieve. Add a can of crushed or grated pineapple. The fruit will be distributed more evenly through the jelly if it is not added until the latter begins to cool, but has not yet set.

---

"What is a cannibal, pa?"
Asked little Harry Dann.
"A cannibal is one, m' boy,
Who loves his fellow man."

—"Lippincott's."

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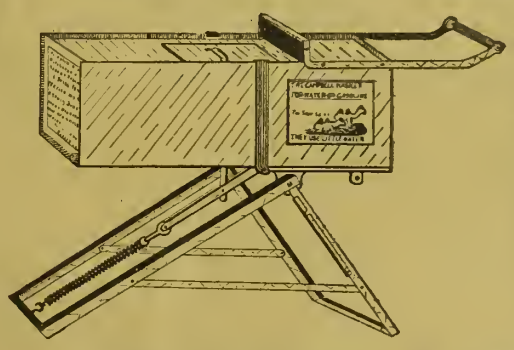

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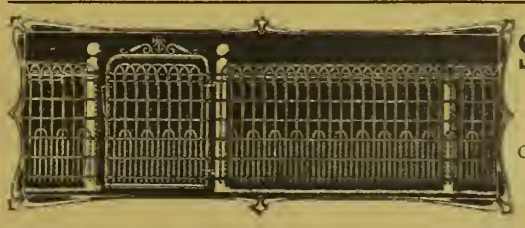

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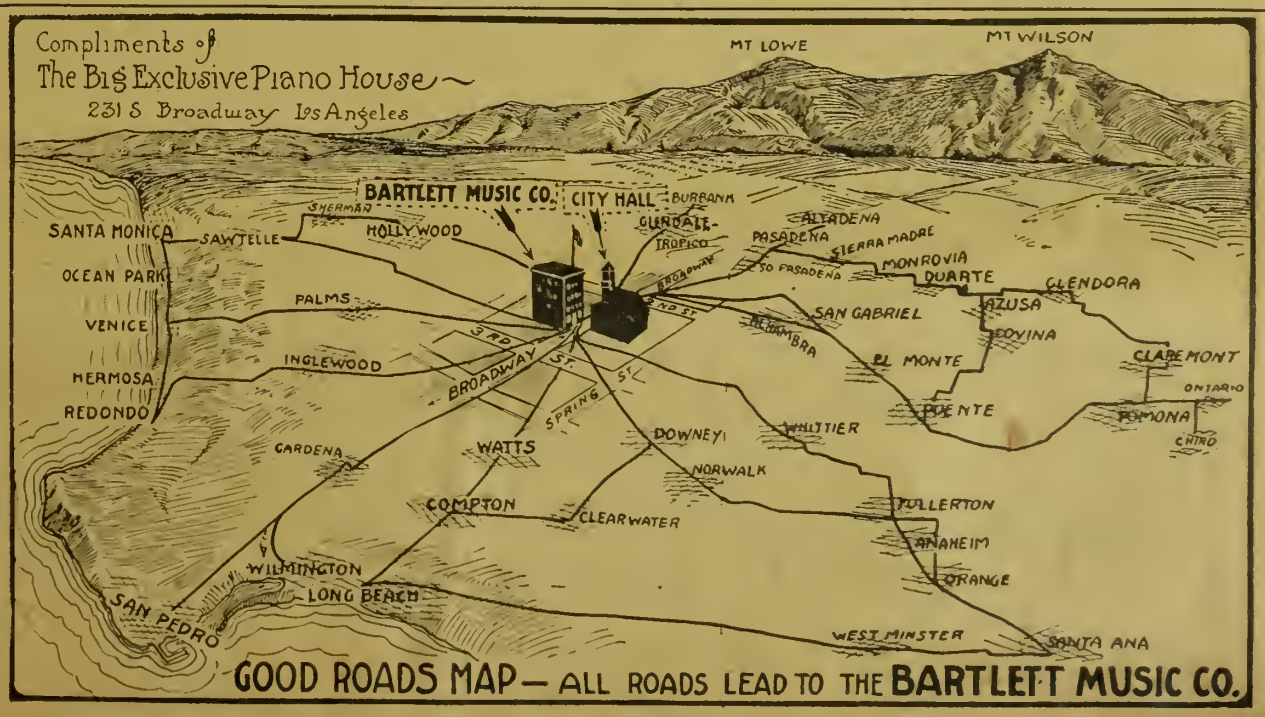

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Oct. 20, 1909.

### Butter.

Receipts of butter are light and no strong features are observed. Quotations are exacctly as last week.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

| | |
|---|---|
| Creamery per roll | 70@75 |
| Dairy per roll | 32 |
| Eastern Creamery per roll | 70 |
| Cooking | 27 |
| Ladles | 26 |

### Cheese.

| | |
|---|---|
| Anchor large | 20 |
| Northern fresh | 18 |
| Young America | 21 |
| Domestic Swiss | 21@23 |
| Imported Swiss | 32 |

### Eggs and Poultry.

Local case counts are strong at a large advance over last week and selling freely at 42. Extras are freely commanding 50 cents.

Paying price f. o. b. L. A. is:

| | |
|---|---|
| Local candled | 47@50 |
| Case count buying price | 42 |
| Eastern fresh | 34 |
| Storage | 32 |
| Northern, candled | 38 |
| Northern, case count | 36 |

Dealers pay for live poultry f. o. b. L. A.

| | |
|---|---|
| Hends per pound | 18@19 |
| YeYllow sweets per ctl. | 1.75@3.00 |
| Fryers 2 to 2¾ lbs. | 18@19 |
| Broilers 1¼ to 2 lbs. | 18@20 |
| Roasters 3 lbs. and up | 18@19 |
| Turkeys | 20@24 |
| Geese | 10@12 |
| Ducks | 10@12 |
| Squabs | 1.25@1.75 |

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

| | |
|---|---|
| Hogs from 175 to 200 pounds | 7½ |
| Prime steers | 4@4¼ |
| Heifers | 3½@3¾ |
| Calves per pound | 5 |
| Sheep ewes per head | 3.75@4.00 |
| Lambs per head | 3.25@3.50 |
| Wethers | 4.50@5.00 |

### Potatoes.

Wholesale prices are:

| | |
|---|---|
| Yellow sweets per ctl. | 1.25@1.50 |
| Burbank local | 1.00 |
| Highlands | 1.10@1.25 |
| Salinas | 1.60@1.65 |

### Onions.

Wholesale quotations:

| | |
|---|---|
| Silverskins local | 1.10@1.50 |
| Northern Yellow Danvers | 1.35 |
| Australian Browns per sack | 1.35 |
| Garlic | 7@8 |

### Vegetables.

| | |
|---|---|
| Artichokes locals | 75@85 |
| Beets, sk | 90 |
| Beans, string | 4 |
| Beans Limas | 4@5 |
| Brussels sprouts per lb. | 10 |
| Bell peppers | 4 |
| Cabbage, per sack | 1.25@1.40 |
| Celery per crate | 2.50 |
| Chili per lb | 2 |
| Cucumbers per box | 50 |
| Cauliflower per doz | 90@1.00 |
| Carrots per sk | 90 |
| Corn per box | 50@60 |
| Egg plant per lb. | 2@3 |
| Green onlons per doz bunches | 20@25 |
| Hubbard squash per lb. | 1½@2 |
| Summer squash per box | 40 |
| Lettuce choice per crate | 1.00@1.25 |
| Leeks | 35@40 |
| Oyster plant | 35@40 |
| Okra per lb. | 9@10 |
| Peas per lb. | 5½ |
| Parsley, per doz. bunches | 25 |
| Parsnips doz | 40 |
| Radishes per doz | 20@25 |
| Rhubarb, No. Strawberry box | 1.75 |
| Rhubarb, crimson winter | 1.00@1.25 |
| Spinach per doz | 20 |
| Turnips sk | 90 |
| Tomatoes lugs | 50@60 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 2.00@2.75 |
| Grapefruit | 2.00@3.50 |
| Lemons | 2.00@3.50 |
| Limes, halves | 1.50@2.00 |

### Fresh Fruits.

Wholesale prices on the market are:

| | |
|---|---|
| Bellefleurs | 1.00@1.35 |
| Fall Pippins | 75@1.10 |
| Pearmains Red | 1.25 |
| Greenings | 75@1.10 |
| Jonathans | 2.75@2.85 |
| Arkansas Beauties | 1.25 |
| Smith Cider | 75 |
| Casabas per crate | 1.35 |
| Cantaloupes Jumbos | 3.00 |
| Christmas melons | 2.00 |
| Figs | 85@1.00 |
| Grapes lug box | 50@90 |
| Persimmons lb. | 8@10 |
| Peaches, per bx. | 1.00@1.25 |
| Pears Bartletts lb. | 7 |
| Plums | 1.25 |
| Pomegranates | 1.25 |
| Quinces | 1.25 |
| Roselle lb. | 10 |
| Raspberries | 10@12 |
| Blackberries | 6@7 |
| Strawberries | 6@7 |
| Watermelons per lb. | 1@1½ |

### Dried Fruits.

Wholesale prices are:

| | |
|---|---|
| Apricots | 11@13 |
| Evap apples fy per lb. | 10 |
| Figs box | 1.25 |
| Peaches | 6@7 |
| Pears | 9@10 |
| Plums pitted | 7@8 |
| Nectarines | 7@9 |
| Prunes | 4½@8 |

### Beans Dried.

Wholesale prices are:

| | |
|---|---|
| Limas per ctl | 4.40@4.50 |
| Pink No. 1 | 3.85 |
| Black eyes | 4.00@4.25 |
| Lady Washington | 4.00 |
| Small White | 4.75@5.00 |
| Garvanzas | 4.50 |
| Lentils | 7.00@8.00 |

### Nuts.

The following walnut prices are not the wholesale, but car lot quotations established by the walnut association.

| | |
|---|---|
| No. 1 soft shell | 11½ |
| No. 1 hard shell | 11 |
| No. 2 soft shell | 7½ |
| Almonds IXL per lb. | 15@17 |
| Pecans polished | 12½@16 |
| Peanuts Eastern | 7 |

### Honey.

Wholesale quotations:

| | |
|---|---|
| Extracted water white | 7½@8 |
| Extracted light amber | 5½ |
| Comb Water White | 18 |
| Comb, white | 15 |
| Beeswax | 25 |

### Hay.

| | |
|---|---|
| New Barley hay | 10.00@14.00 |
| Alfalfa, local | 11.00@12.50 |
| New alfalfa Imperial | 11.00@12.00 |
| Northern | 11.00@12.50 |
| Wheat hay | 11.00@13.50 |
| Tame oat | 11.00@15.00 |

### Grain.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Wheat new per ctl | 1.90@1.95 |
| Kaffir corn | 2.00 |
| Corn | 1.75 |
| Egyptian corn | 1.80 |
| White oats | 1.75 |
| Seed Rye | 2.10 |
| Popcorn | 3.75 |

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Cracked corn | 1.80 |
| Cracked wheat | 2.10 |
| Shorts | 1.85 |
| Bran | 1.60 |
| Cocoanut cake | 1.35 |
| Cocoanut meal | 1.85 |
| Cottonseed meal | 1.25 |
| Oil cake meal | 1.85 |
| Feed meal | 1.85 |
| Rolled Barley | 1.50 |

## San Francisco Markets

SAN FRANCISCO, Oct. 19, 1909.

### Butter.

A steady condition prevails with butter, though it has declined materially since last quotations. The decline was made on Saturday. Receipts are normal.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

| | |
|---|---|
| California extras per lb. | 34 |
| Cal. firsts | 31½ |
| California seconds | 28½ |
| Storage extras | 30 |

### Cheese.

| | |
|---|---|
| California flats | 14@16 |
| Cal. Young America fy | 17½ |
| Young American Oregon fy | 17½ |

### Eggs and Poultry.

Eggs are still advancing and Saturday's market put them up 1½ points extra. Market very strong.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

| | |
|---|---|
| Fresh ranch extras | 57½ |
| Firsts | 46 |
| Seconds and thirds | 24@30 |
| Storage extras | 30 |
| Hens per doz | 4.50@9.00 |
| Rosters per doz | 3.50@9.00 |
| Fryers per doz | 5.00@6.90 |
| Broilers | 2.50@4.50 |
| Geese per pair | $1.50@2.50 |
| Ducks | 4.00@8.00 |
| Turkeys | 20@25 |
| Pigeons young | 1.00@2.50 |

### Live Stock.

San Francisco prices gross weight:

| | |
|---|---|
| Steers | 2¾@4⅜ |
| Cows and heifers | 2@3⅜ |
| Hogs | 4½@7¼ |
| Calves per lb. | 4@5¼ |
| Milk lambs | 5¼@5½ |
| Wethers No. 1 | 4½@4¾ |
| Ewes No. 1 | 3¾ |

### Potatoes.

Wholesale market quotations:

| | |
|---|---|
| River Whites crates | 55@65 |
| Salinas | 1.25@1.40 |
| Oregons | 1.00@1.10 |
| Sweets | 1.60@1.70 |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Asparagus per box | 50@1.00 |
| Bell peppers per box | 40@50 |
| Cauliflower doz. | 75@1.00 |
| Cucumbers per box | 35@50 |
| Celery, doz. | 25@40 |
| Chili peppers per box | 40@50 |
| Corn per sk | 1.00@1.25 |
| Egg plant per box | 35@50 |
| Green peas per lb. | 4@5 |
| Okra | 35@50 |
| Rhubarb per box for bay | 1.25@1.50 |
| Squash per box | 50@65 |
| String beans | 2@4 |
| Tomatoes | 40@75 |
| Wax beans | 4@5 |
| Lima beans | 6@7 |
| Garlic | 4½@5 |

### Onions.

| | |
|---|---|
| Yellow onions | 70@80 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 2.00@3.00 |
| Grapefruit | 1.00@3.25 |
| Lemons | 1.50@4.50 |
| Limes | 6.00@6.50 |

### Fresh Fruits.

| | |
|---|---|
| Bellflowers | 1.00@1.15 |
| Figs blk box | 50@1.00 |
| Isabellas | 65@75 |
| Other varieties | 40@60 |
| Zinfandel and wine grapes per ton | 10.00@15.00 |
| Peaches per lug box | 75@1.00 |
| Plums boxes | 50@65 |
| Pears, winter Nellis | 1.00@1.25 |
| Nutmegs per box | 40@75 |
| River | 40@75 |
| Pears, cooking, box | 40@75 |
| Pomegranates | 50@75 |
| Quinces | 75@1.00 |
| Huckleberries per lb. | 10@12½ |
| Raspberries per chest | 4.00@8.00 |
| Strawberries per chest | 3.00@5.00 |

### Dried Fruits.

| | |
|---|---|
| Santa Clara prunes | 2¾@3 |

1 cent premium for larger sizes.

| | |
|---|---|
| Apricots per lb. Royal | 9@10½ |
| Apricots Moorpark | 11@12½ |
| Peaches—Choice....5; Fancy | 7 |
| Apples evap | 6½@8½ |
| Pears | 6@8 |
| Figs | 3@4 |
| Nectarines | 5@6 |
| Plums | 7@8 |
| Apples | 6½@8½ |

1909 crop, f. o. b. Fresno, 1-lb. cartons—Choice, 4½c; Fancy, 5¼; Seedling Stock, 2½c, sweat-box; London Layers, 2-crown, 90c; do, 3-crown, $1; Fancy Clusters, $1.25; do. Dehesa, $1.50; do. Imperials, $1.75; Loose Muscatel, 2-crown, 3c; 3-crown, 3½c; 4-crown, 4c.

### Nuts.

| | |
|---|---|
| Walnuts soft shell No. 1 | 12½ |
| Walnuts S. S. No. 2 | 7½ |
| Walnuts, hard shell | 11½ |
| Almonds '09 N P U | 12¾@13¼ |
| Almonds '09 nonp | 14½ |
| Almonds '09 I X L | 13½@14 |
| Pecans | 15@17 |
| Chestnuts | 14@15 |
| Peanuts | 5@6 |
| Pine nuts | 22½@25 |

### Beans Dried.

| | |
|---|---|
| Limas | 4.15 |
| Pink | 3.25 |
| Small white | 4.25 |
| Large white | 3.25 |
| Black eyes | 4.15 |
| Red kidneys | 4.00 |
| Garvanzas | 3.00@3.10 |
| Bayo | 4.15 |
| Horse beans | 1.90@2.00 |
| Cranberry | 4.25@4.50 |

### Hops.

| | |
|---|---|
| Hops 1909 crop | 25@26½ |
| Hops 1908 crop | 12@18 |
| Old | 8@12 |

### Honey.

| | |
|---|---|
| White comb | 14@15 |
| Light Amber | 10@12 |
| Extracted W W | 7½ |
| Extracted light amber | 6½@7 |
| Beeswax per lb | 25@29 |

### Hay.

Scott, Magner & Miller say:

Arrivals of hay for the week have been 4100 tons, which shows an increase over last week's arrivals. Large quantities of hay have been rushed in from the river banks, and these arrivals have constituted the larger part of the above amount received. Arrivals by railroads have been moderate for the last ten days.

The warehouses are being broken into, and consignments being sent forward to this market from storage.

Feed grains are high, and the consumer is thoroughly adverse to being compelled to pay any further advance in the price of hay.

Alfalfa has has been a heavy factor in the arrivals during the week, as large quantities are being rushed in by water from the river districts to get the fields entirely cleaned up before our heavy rains. Prices on this article are lower, and the market fully stocked.

This week's quotations are:

| | |
|---|---|
| Choice wheat hay | 19.00@20.00 |
| No. 1 wheat or wheat & oat | 17.00@18.00 |
| No. 2 wheat or wheat & oat | 14.00@15.00 |
| Choice tame oat | 16.50@17.50 |
| Other tame oats | 14.00@15.00 |
| New crop wild | 11.00@15.00 |
| Stock hay | 8.00@9.00 |
| Alfalfa | 10.00@13.00 |
| Straw | 55@65 |

### Grain.

| | |
|---|---|
| Wheat No. 1 | 1.35@1.46¼ |
| Barley No. 1 | 1.72½@1.77¼ |
| Oats white | $1.55@1.60 |
| Oats gray | 1.55@1.60 |
| Rye new crop | 1.75@1.85 |
| Cal sm round | 1.70@1.75 |
| Alfalfa seed, Cal. | 16@18 |
| Mustard brown | 3¾@4½ |
| Millet | 2½@3 |
| Flaxseed | 4 |
| Broom corn seed per ton | 23.50 |

### Feed Stuff.

| | |
|---|---|
| Bran per ton | 29.00@30.00 |
| Feed cornmeal per ton | 38.00@39.00 |
| Cracked corn per ton | 39.00@40.00 |
| Ground barley per ton | 29.00@30.00 |
| Rolled oats per ton | 37.00@38.00 |
| Oil cake per ton | 38.50@40.00 |
| Cocoanut cake per ton | 25.00 |
| Middlings | 36.00@37.50 |
| Mixed feed per ton | 28.00@32.00 |
| Shorts | 31.50 |

## Deciduous Market

The California Fruit Distributors reported Monday of fruit sales in the East as follows. 1 carload sold in Boston by Distributors; 5 in Philadelphia by Distributors; 2 in Minneapolis by Distributors; 18 in Chicago, 10 by Distributors; 20 in New York, 10 by Distributors.

Prices averaged as follows:

Chicago—Tokays, 70c to $1.35; Malagas, $1.25; Italians, $1.10; Cornichons, $1.20.

New York—Tokays, $1.12; Malagas, $1.15; Pomegranates, irregular quality, averaged 87c.

## Citrus Market

LOS ANGELES, Oct. 20, 1909.

Valencias are commanding the highest price of the season and assurance is felt that the few yet remaining will command still higher prices. As there are but few cars yet to ship, it is very probable they will be picked up by buyers who seem anxious to have them stored. The early shipments from Tulare and Butte counties will probably begin not far from November 1st, but there will be some holding of Valencias for the trade which prefers them to new fruit.

Lemons are commanding the biggest price since the Fourth of July. Foreigns are selling on New York docks at exceedingly strong prices and the few going forward from California do not begin to meet the requirements of the trade. Only about four or five cars are shippped daily now. The quality of the stock is exceptionally good.

**SHIPMENTS.**

Total shipments of citrus fruits since Nov. 1, 1908, 37,713 cars, of which 31,615 were oranges and 6,098 lemons.

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NEW YORK, Oct. 13.—Four cars oranges sold. The market is very strong and active, with prices somewhat higher. Weather clear and cool.

| VALENCIAS— | Avge. |
|---|---|
| Swastika, L. V. W. Brown | $3.10 |
| Butterfly, Covina Exchange | 3.35 |
| Old Oaken Bucket, Covina Ex. | 2.60 |
| Aurora, E. Peycke Co. | 3.40 |
| A One, E. Peycke Co. | 2.95 |
| Old Mission, Fy., Chapman | 6.75 |
| Golden Eagle, Sr., Chapman | 3.50 |

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ST. LOUIS, Oct. 15.—Weather favorable. Market is advancing on oranges and lemons. Two cars sold.

| VALENCIAS— | Avge. |
|---|---|
| Pointer, A. C. G., Charter Oak | 2.40 |
| LEMONS | |
| Transcontinental, S. S., El Modena | 3.50 |
| Elliodena, S. S., El Modena | 2.95 |

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PITTSBURG, Oct. 15.—One car sold. Market steady on Valencias. Weather cold.

| VALENCIAS— | Avge. |
|---|---|
| Searchlight, S. S., Orange | 2.25 |

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PHILADELPHIA, Oct. 15.—Four cars Valencias, one car lemons sold.

| VALENCIAS— | Avge. |
|---|---|
| Pointer, A. C. G., Lateen Spur | 3.10 |
| Golden, Riv. Ex., Riv | 2.35 |
| Carmencita, S. T., Fullerton | 3.15 |
| Hunter, A. C. G., Lateen Spur | 2.35 |
| Cal. Orange, Riv. Ex., Riv | 2.05 |
| Colombo, S. T., Fullerton | 3.05 |
| LEMONS— | |
| Bridal Veil or Limoneira | 3.55 |

BOSTON, Oct. 15.—Four cars sold. Raining. Market very strong.

| VALENCIAS— | Avge. |
|---|---|
| Carmencita, S. T., Fullerton | 3.60 |
| Pointer, A. C. G., Azusa | 3.55 |
| Standard, National O. Co. | 3.30 |
| Geisha, J. S. Kuns | 2.65 |
| Colombo, S. T., Fullerton | 3.10 |
| Orchard, National O. Co. | 4.05 |
| Golden Orchard, Ind. Fruit Co | 3.15 |

CLEVELAND, Oct. 15.—One car Valencias sold. Market very strong. Weather cold.

| VALENCIAS— | Avge. |
|---|---|
| Pampas, S. T., Anaheim | 3.30 |
| Papyrus Semi-Tropic Ex., Anaheim | 2.70 |

NEW YORK, Oct. 18.—Ten cars oranges sold. Market is very strong, with an upward tendency. Weather cloudy, rainy, cool.

| VALENCIAS— | Avge. |
|---|---|
| Old Mission, fancy, Chapman | 4.95 |
| Golden Eagle, Chapman | 3.35 |
| Old Oak, Tustin Packing Co | 2.95 |
| Lucky, Tustin Packing Co. | 2.40 |
| Old Mission, fancy, Chapman | 6.45 |
| Golden Eagle, Chapman | 3.40 |
| Pilgrim, R. J. Richardson | 3.70 |
| Buena, R. J. Richardson | 3.20 |
| Clown, Sparr Fruit Co. | 3.60 |
| Crackshot, Sparr Fruit Co. | 2.95 |
| Swastika, L. V. W. Brown | 3.25 |
| Caledonia, T. Strain | 3.65 |
| Cambria, T. Strain | 2.85 |
| Carmencita, Semi-Tropic Ex. | 3.80 |
| Colombo, Semi-Tropic Ex. | 3.10 |
| Blue C. Covina Ex. | 3.50 |
| Pointer, A.-C.-G. Exchange | 3.40 |
| Hunter, A.-C.-G. Exchange | 2.70 |

GRAPEFRUIT—Cerrito, half boxes, $1.

PITTSBURG, Oct. 18.—Two cars sold. Market steady on Valencias.

| VALENCIAS— | Avge. |
|---|---|
| Planet, Sunset Exchange, Orange | 2.80 |
| Sunset, Sunset Exchange, Orange | 1.95 |
| Hunter, A.-C.-G. Ex. Glendora | 2.05 |
| Searchlight, Sunset Ex. Orange | 2.75 |
| Pointer, A.C.-G. Ex. Glendora | 2.45 |

CLEVELAND, Oct. 18.—One car Valencias sold. Market firm on good stock of fruit. Weather cold; raining.

| VALENCIAS— | Avge. |
|---|---|
| Lincoln, A. H. Ex. Casa Blanca | 2.50 |
| Navajo | 2.00 |

CINCINNATI, Oct. 18.—Cool; raining. Market very strong on Valencias. One car Valencias and two cars Floridas sold. Florida Brights sold for from $1.80 to $2.

| VALENCIAS— | Avge. |
|---|---|
| Red Globe, Riverside Exchange | 3.15 |
| California Orange | 2.75 |

ST. LOUIS, Oct. 18.—Raining. Market advancing. Three cars sold.

| VALENCIAS— | Avge. |
|---|---|
| Mission, Semi-Tropic Ex., S. Bar. | 2.80 |
| Searchlight, Sunset Ex., Orange. | 2.30 |
| Orchid, Altland Fruit Co. | 2.85 |
| Festival, Semi-Tropic Ex., San. Bar. | 2.80 |
| Sunset, Sunset Ex., Orange | 2.05 |
| Buscada, Altland Fruit Co. | 2.50 |
| LEMONS— | |
| Orchid, Altland Fruit Co. | 3.50 |
| Stock Label | 2.95 |

PHILADELPHIA, Oct. 18.—Four cars Valencias sold.

| VALENCIAS— | Avge. |
|---|---|
| Pampas, Semi-Tropic Ex., Ana. | 2.85 |
| Carmencita, Semi-T. Ex., Fullert. | 3.45 |
| Purity, Tustin Packing Co. | 3.50 |
| Lucky, Tustin Packing Co. | 2.55 |
| Papyrus, Semi-Tropic Ex., Anaheim | 2.60 |
| Colombo, Semi-Tropic Ex., Fuller. | 2.90 |
| Old Oak, Tustin Packing Co. | 2.85 |

BOSTON, Oct. 18.—Three cars sold. Weather favorable. Market strong on both Valencias and lemons.

| | |
|---|---|
| Planet, Sunset Exchange, Orange. | 3.40 |
| Colombo, Semi-Tropic Ex., Fuller. | 3.05 |
| Carmencita, Semi-Tropic Ex. Full. | 3.40 |
| LEMONS— | |
| Pet, San Antonio Exchange | 5.15 |
| Greyhound | 4.75 |

## SHORT HISTORY OF ENGLISH AGRICULTURE.

A book which should be in every complete agricultural library, and of especial interest to those who wish to be informed as to agricultural history as well as agricultural products, is one of the above title published by the Oxford University Press, whose American branch is at 29 to 35 West 32nd St., New York. The book is written by W. H. R. Curtler. In the preface the author says: "Agriculture is, beyond all doubt, the foundation of every other art, business and profession, and it has therefore been the ideal policy of every wise and prudent people to encourage it to the utmost, yet of this important industry, still the greatest in England, there is no history covering the whole period." The book contains twenty-three chapters, with statistical appendix and good index, and treats of farming from the very earliest communistic efforts down to the most modern methods. One interesting paragraph we note is a quotation from an ancient document describing the duties of a reeve, giving details of 11th century farming as follows:

"In May, June and July one may harrow, carry out manure, set up sheep hurdles, shear sheep, do repairs, hedge, cut wood, weed and make folds. In harvest one may reap; in August, September and in October one may mow, set woad with a dibble, gather home many crops, thatch them and cover them over, cleanse the folds, prepare cattle sheds and shelters ere too severe a winter come to the farm, and also dlligently prepare the soil. In winter one should plough and in severe frosts cleave timber, make an orchard, and do many affairs indoors, thresh, cleave wood, put the cattle in stalls and the swine in pigstyes, and provide a hen roost. In spring one should plough and graft, sow beans, set a vineyard, make ditches, hew wood for a wild deer fence; and soon after that, if the weather permit, set madder, sow flax seed and woad seed, plant a garden and do many things which I cannot fully enumerate that a good steward ought to provide."

## GROWTH OF SUGAR BEET.

The growth of a beet plant from germination to maturity may be roughly divided into three distinct periods, with respect to its needs of water. During germination only a moderate amount is required. But as soon as six or eight leaves are formed the plant can use enormous quantities, and at this time, it is almost impossible to drown it. During the maturing period, when the sugar is forming, a gradual lessening of moisture must take place. This means that there are practically two periods when water can be applied to the best advantage with our method of flooding,—flooding, by the way, being superior to all other methods of applying water under our condition. The plant itself is a good index of its needs and whenever during the time of rapid growing deep purplish or dull color takes the place of the usual healthy vivid green, or wilting plants do not revive over night, water must be applied. On the other hand the plants must never reach a yellow stage, unless that yellowing is a sign of approaching maturity. Water applied then will either do no good or else prove harmful by breaking down the sugar and inducing a secondary growth. The wise use of water is the secret to success.—R. L. Adams.

Feed sold from the farm in the form of butter-fat and pork brings the best profits.

The barn that can be kept most clean and sanitary is floored with cement.

Pure bred farm stock is the only kind that pays under any circumstances.

# Business Notes

### U. S. SEPARATORS WIN GRAND PRIZE AT SEATTLE EXPOSITION

It will not surprise any one who has used a United States Cream Separator to learn that this separator was awarded the Grand Prize, the highest possible award, at the Alaska-Yukon-Pacific Exposition at Seattle, Wash. The award made by expert judges confirms the testimony of dairymen and farmers throughout the country, who have put this sterling separator to the test day after day on the farm.

It is interesting to note that the United States Separators exhibited at the Seattle Exposition were ordinary stock separators. No extra finish was put on them. They were all ready to go to work separating milk and in fact, they will be sold and at work before this article is read. The Vermont Farm Machine Co. has claimed for its United States Separators that they are exceptionally easy running, easy cleaning and long lived, and possess the highest degree of skimming perfection. The award of Grand Prize bears out these assertions.

The farmer who does not own a cream separator and who intends buying one is naturally interested in what others think of the merits of the various makes of separators. He depends on the testimony of actual users, and expert judges. The United States Separator is fortunate in having so many loyal users of its machines, who never miss an opportunity to "talk United States," and also in having received such unanimous approval in the shape of awards by exposition judges. The combination of these two recommendations cannot fail to impress the prospective buyer of a separator. And he makes no mistake in following such advice and buying a United States.

Get Your Team a
**Uniform**
**Why Not?**

It will encourage the young folks to play hard, study hard, take a pride in their school, and will put your town on the map. Try it once.

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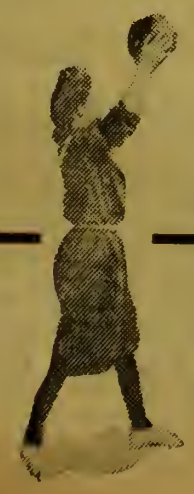

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**20 CARLOADS OF MERCHANT NEW PIPE**
**Galvanized and Black—All Sizes**

Just arrived from the mills. We are offering this pipe at the lowest prices obtainable on the Pacific Coast. Write or telephone for quotations. Call and inspect the stock. We can cut pipe to any measurement you want. Our carload brass valves just arrived from one of the largest brass works in the East. All first-class new goods. Hose bibb, garden valves, angle valves and globe valves. Two carloads oil well casing, 11⅝, 9⅝, 7⅝, 5⅝ 4, 3½, 3¼ and 3-in casing.

**Adams Pipe Works**
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**Phones—F1917, Bdw. 1264**

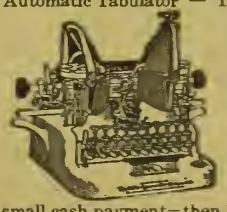
**A $100 Typewriter for 17 Cents a Day!**

Please read the headline over again. Then its tremendous significance will dawn upon you.

An Oliver Typewriter—the standard visible writer—the $100 machine—the most highly perfected typewriter on the market—yours for 17 cents a day!

The typewriter whose conquest of the commercial world is a matter of business history—yours for 17 cents a day!

The typewriter that is equipped with scores of such conveniences as "The Balance Shift"—"The Ruling Device"—"The Double Release"—The Locomotive Base"—"The Automatic Spacer"—The Automatic Tabulator"—"The Disappearing Indicator"—"The Adjustable Paper Fingers"—"The Scientific Condensed Keyboard."



**Yours for 17 Cents a Day!**

We announced this new sales plan recently, just to feel the pulse of the people. Simply a small cash payment—then 17 cents a day. That is the plan in a nutshell.

The result has been such a deluge of applications for machines that we are simply astounded.

The demand comes from people of all classes, all ages, all occupations.

The majority of inquiries has come from people of known financial standing who were attracted by the novelty of the proposition. An impressive demonstration of the immense popularity of the Oliver Typewriter.

A startling confirmation of our belief that the Era of Universal Typewriting is at hand.

**A Quarter of a Million People are Making Money With**
**The OLIVER Typewriter**
**The Standard Visible Writer**

The Oliver Typewriter is a money-maker, right from the word "go!" So easy to run that beginners soon get in the "expert" class. Earn as you learn. Let the machine pay the 17 cents a day—and all above that is yours.

Wherever you are, there's work to be done and money to be made by using the Oliver. The business world is calling for Oliver operators. There are not enough to supply the demand. Their salaries are considerably above those of many classes of workers.

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That is our battle cry today. We have made the Oliver supreme in usefulness and absolutely indispensable in business. Now comes the conquest of the home.

The simplicity and strength of the Oliver fit it for family use. It is becoming an important factor in the home training of young people. An educator as well as a money maker.

Our new selling plan puts the Oliver on the threshold of every home in America. Will you close the door of your home or office on this remarkable Oliver opportunity?

Write for further details of our easy offer and a free copy of the new Oliver catalog. Address

**The Oliver Typewriter Company**
**257 California St. San Francisco, Cal.**

# "Without a Peer"

says one of our customers, writing regarding his WESTERN engine. Extract from his letter is given below:

"It pleases me greatly to be able to say that the engine recently purchased of you has more than met our highest expectations. Of its kind, it is my belief that it is **Without a Peer** in all the West.

In the purchase of the engine I carefully looked over the market, had seen every high powered combustion in the State, had given every argument due weight, had fully considered costs of other powers—both as to first cost and cost of operation—and now after a good test stand ready to say that I do not think we have made a mistake in securing your engine."

The engine referred to is of the size and type shown in cut, and is used for pumping water near San Francisco, Cal.

250 H. P. Western Engine

## Western Gas Engine Company

Builders of Gas and Distillate Engines and Hoists. Engineers and Constructors of Power Plants of Every Size, for Every Purpose.
Sole Manufacturers of the Nix-Frost Crude Oil Suction Gas Producer (Patented)
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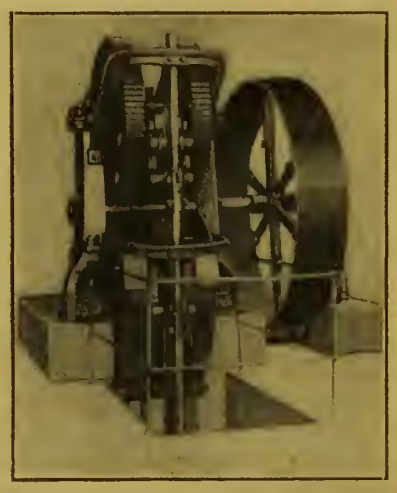
It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.



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## BYRON JACKSON IRON WORKS

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**Are Popular**

**2 1-2 to 20 Horse Power**

**Because** Guaranteed to develop 10% in excess of rated H. P. Rigid construction and moderate weight. **Costs Less** than others not as good. Balanced centre crank prevents Vibration—most modern and effective cooling system. **We Believe** an inspection will convince you that the Lambert Portable Engine is far superior to any on the market, and we have made a price to get the business.

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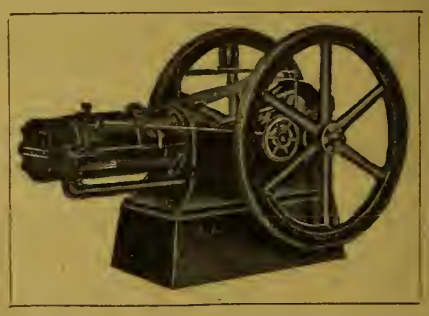
## *Not too Light*
## *But Just Right*

Send for Bulletin No. 12.



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Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

## Western Machinery Company
**230 Main Street, San Francisco, Cal.**

## More Water! Less Power!
## Longer Life! Less Money!

The American Pump has come to stay because every man that is using one is boosting for it. Get our prices and our guarantee before placing orders for irrigating plants. Send us your name and we will send you some interesting catalogs.

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From photograph showing amount of

## Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

## "K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

**THE KELLAR-THOMASON MFG. CO., Covina, Cal**

# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles October 28, 1909 San Francisco


# Vast Forests Used in Production of Paper Pulp

Courtesy Superintendent Public Instruction, California.

Slaughter of the forest. The trees are chopped down, peeled, and then the whole surface of the forest is burnt to the bone, so that the logs may be easily and cheaply dragged out.

IF you stood on the top of a tower in the greatest hardwood forests of the South, one sweep of the scythe of civilization would mow it farther than you could see, for one month's use in vehicles, manufactured furniture and farm implements. Prices for this kind of wood have risen from 25 to 65 per cent since 1899. In seven years the production of hardwood has fallen off 15 per cent; and those were the six years of its greatest demand.

It would seem that we cannot much longer afford to read. Neither shall we long be able to write. Last year we made more than 315,000,000 lead pencils. A lead pencil is not very large, but the total number of lead pencils required 7,300,000 cubic feet of cedar. We have cedar enough to last us just twelve years.

More than 100,000 acres of timber in the whole United States are cut over every working day. We use many times more timber per capita than any other nation.

We have left not over 450,000,000 acres bearing commercial timber. Cast up in your mind some of the small demands of industry noted above. Multiply this by three or four to represent the total, including all sorts of sawn lumber. Remember that you are dealing in terms of millions of acres. Divide 450,000,000 by your total number of millions of known demand. What is the result? Do you find it pleasant? Do you remain willing to listen to the charming of those who are either ignorant or hypocritical in their "estimates"?

SOME one has figured that a big Sunday newspaper needs twenty acres of wood pulp to make the paper for one edition. The Chicago Tribune, a chance instance, uses 200,000 pounds of paper each Sunday, or 400,000 each week. Do your own multiplying. We used of domestic spruce alone for pulp wood in one year 1,785,680 cords. The average stand of spruce pulp wood in the regions where it is cut is probably about ten cords per acre; so that of such spruce land we require at least 178,500 acres annually. A ton of paper takes about two cords of spruce in the making—to be exact, about 1,750 pounds of paper pulp.

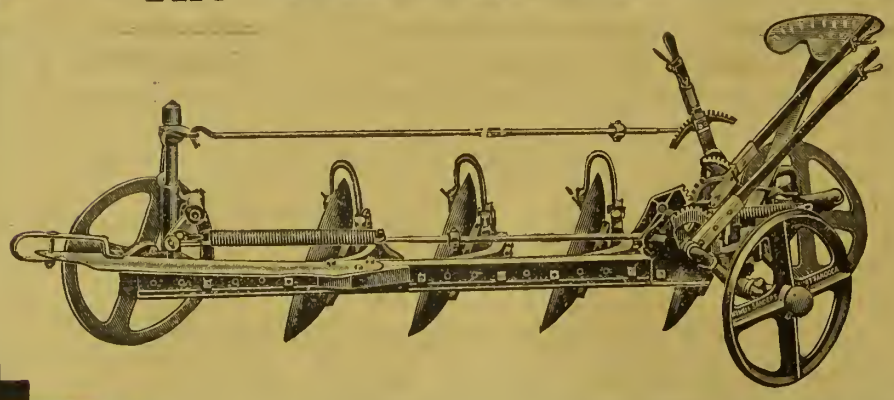
We use other woods for pulp now, hemlock, balsam, pine, poplar; 3,661,176 cords was our total for 1906. We used in that year 2,327,844 tons of pulp. Since each ton probably cost on the average two cords of some sort of wood, not allowing anything for waste, there were over four million cords cut somewhere mostly in the United States; which means something like a million acres a year for pulp. Call it a half million for close measure. Do some figuring. If it costs twenty acres a Sunday, or forty acres a week, or 2,080 acres a year to print one daily newspaper, what does it cost in acreage to print all the newspapers in all the cities and towns of America? Add to this the paper used in books. The total staggers the imagination, and yet the amount of timber cut for pulp in the United States annually is less than five per cent of what is cut for lumber.

Courtesy Superintendent Public Instruction, California.

This mountain slope was logged over many years ago. Observe that it does not reproduce forest cover, but remains a bare, parched region, at the mercy of sudden flood and summer heat.

# EVERYTHING FOR THE RANCHER.

## The Sanders-Arnott Disc Plows



All Sanders gang plows have one solid steel frame to which the beams are bolted. This is the most important feature ever introduced in the construction of disc plows. Six page illustrated circular giving other reasons mailed to those interested. These plows furnished in all sizes, one to six disc and in field and orchard patterns. Sold by principal dealers or direct by us if your dealer handles an inferior plow. Write us today.

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A SAFE-GUARD IN YOUR HOUSEHOLD.

FOR SORE THROAT, RHEUMATISM NEURALGIA, SPRAINS, BRUISES SWELLINGS, POISONOUS BITES LAMENESS IN BACK, SHOULDERS AND LIMBS, CUTS, OLD SORES STIFF JOINTS, CORNS, BUNIONS CHILBLAINS, ETC.

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THE STOCKMAN'S STANDBY.

SAFE-PROMPT-SUCCESSFUL TREATMENT FOR THE MANY AFFLICTIONS OF THE HORSE & OTHER DOMESTIC ANIMALS.

CAN BE USED TO BLISTER, OR NOT-AS NEEDED. FULL DIRECTIONS.

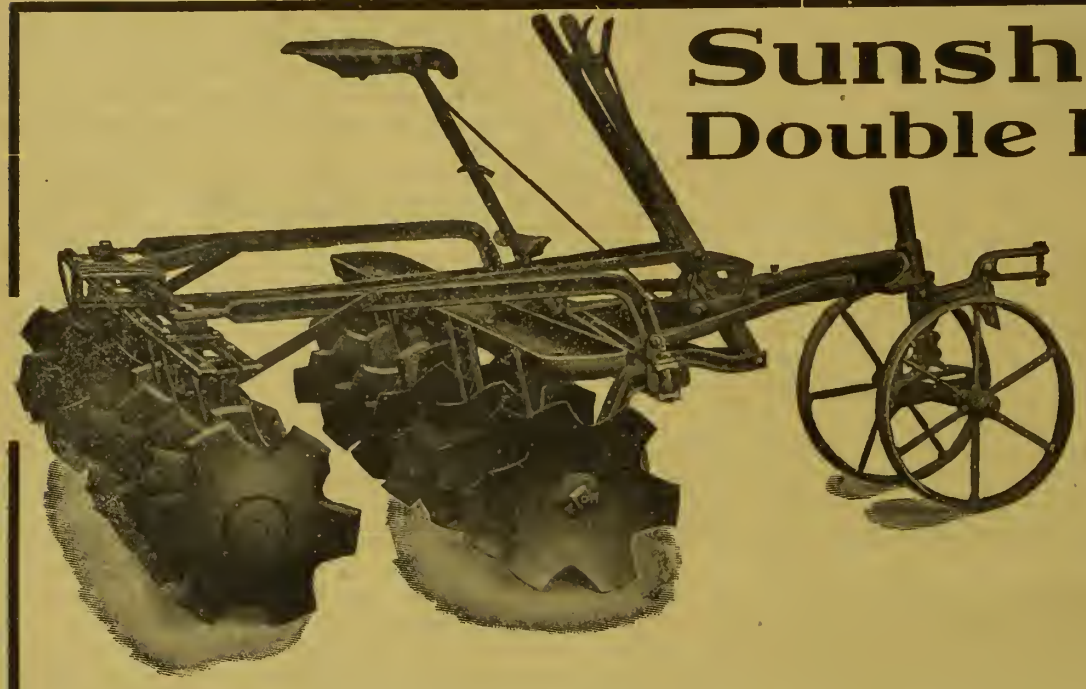
PROVEN THE BEST BY 40 YEARS OF TEST.

50¢ & $1 Sizes Sold Everywhere.

IT DOES THE WORK

H.H. MOORE & SONS, MFG'RS. AND PROPRIETORS STOCKTON CALIF





# Sunshine Double Disc Harrow

Will thoroughly pulverize and cultivate the soil in one operation, and will leave a level surface.

The 'Sunshine' can be changed from a Double to a Single Disc Harrow in a few minutes' time.

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Increased Demand Shows Good Results

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2 TO 50 H. P. HORIZONTAL

# STOVER GAS ENGINES

The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.

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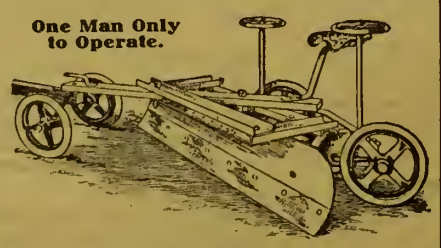
## The Simplex Russell Reversible Road Machine

One Man Only to Operate.



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GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
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High Grade Stock of Best Strains.
Young Stock For Sale.
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When writing advertisers, mention Cultivator.

El Centro now expects to have two alfalfa meal factories.

# California Cultivator

Vol. XXXIII—No. 18 Los Angeles, California, Thursday, October 28, 1909 Subscription $1 a Year


# The Curing of Bacon and Hams

## Excellent Points on Pork Curing Written by H. W. Potts, Principal Hawkesbury Agricultural College, New South Wales, Australia, and Appearing in the Agricultural Gazette of That State

IN curing pork for bacon, we have the knowledge that this class of flesh is specially adapted to salting and smoking, by which its digestibility and wholesomeness are increased rather than diminished as is the case with beef and other meats. The granular form of fat in bacon is easy of digestion, and can be eaten by most persons to whom any other fat is intolerable. Hence bacon is frequently used for delicate children, and where the free use of fatty foods is indicated for persons suffering from wasting diseases or requiring readily digestible fatty articles of diet.

It has been determined as a result of ages of experience as well as scientific investigation, that the use of salt in preserving food has no appreciable influence on health other than favorable. Salting is one of the oldest methods known of preserving meat for man's use. Salt acts as a dehydrating agent on flesh; in other words, it removes water retained in the tissues of the animal body. It is also mildly antiseptic in its action, and in this way assists to preserve.

The flesh of the pig does not absorb or take up salt so readily as other meats, owing to the large proportion of fat to lean. The length of time pigs' flesh should be submitted to the influence of salting depends on various conditions. Some breeds of pigs give a greater proportion of fat. The absorption of salt in this case is slower. The size, thickness, age, and weight of the flitches and hams have to be considered.

It requires less time to cure in a damp cellar than in a dry room. The extremes of heat and cold are unfavorable. In the former case, flesh is liable to decompose before the salt permeates it sufficiently to cure it. Where subject to an excessively low temperature, the meat juices become set and the flesh too firm for the salt to penetrate.

### Temperature of Cooling Room.

It should be noted that the temperature of the curing room should never exceed 60 degrees Fahr. Precautions should be observed to have the tables and room in which curing is conducted scrupulously clean, free from dust, and with a sweet atmosphere.

### Salting.

It was at one time deemed good practice to rub the flesh briskly every day, but it is generally found that this is only necessary for the first three days. The salt mixture only requires to be spread over the flesh firmly. An exception may be made in the case of large thick pieces or where the flesh is very cold; then brisk rubbing is an advantage.

The salt should be pressed into every depression and well into the hock ends where the feet have been cut off, and into the joints. To continue the hard rubbing too long results in a hardened cured flesh. Brown sugar is used in varying quantities with salt, in order to correct the hardening influence of salt on the meat. It also renders the bacon mellow, and increases its juiciness and flavor.

Sugar may also be classified amongst the mild antiseptics as a meat preserver.

### The Purpose of Saltpetre.

Saltpetre, also known as nitre, or potassium nitrate, is used in curing. It possesses antiseptic properties, but it is chiefly added to preserve the natural color of the flesh. When salt is used alone, the natural flesh color fades and lessens the attractiveness of the bacon. Attention must be given to the quantity used, as it has the effect of unduly toughening the meat if applied in excess. The quantity should not be more than one part to 25 parts of salt.

All ingredients used in the mixture applied for curing should be of the best quality, and thoroughly mixed.

### Flavoring Agents.

Flavoring agents of a harmless nature are frequently used, and may be selected from the following:—Cayenne pepper, white and black pepper, nutmegs, corianders, garlic, juniper berries, bay leaves, allspice, ginger, sage, cloves, cinnamon, bruised shallots, thyme, mace, marjoram, mustard.

### To Fix Color.

Immediately after cutting up and trimming, the surface of the flesh should be sprinkled over with equal parts of finely-ground salt and saltpetre. This is best effected through a muslin bag or a horse-hair sieve. Only a small layer is required. This is allowed to remain for twenty-four hours, and washed off with clean, cold water. It acts as a mordant, to fix or render permanent the natural color of the meat.

### Curing.

Curing can be conducted in several ways. It must again be urged that each operation should be conducted under rigid conditions of cleanliness in a cool, sweet atmosphere, with a temperature not exceeding 60 degrees Fahr.

### Pickling.

Numerous recipes are available for pickling bacon. The following is recommended:

| | |
|---|---|
| Clean rain water | 20 gallons. |
| Fine dairy salt | 50 lb. |
| Brown sugar | 5 lb. |
| Saltpetre | 2 lb. |
| Allspice | ½ lb. |

Dissolve the salt, sugar, and saltpetre in the water. Immerse the allspice, tied up in a calico bag. Boil for one hour, and skim off the frothy matter rising to the surface whilst boiling. Allow this solution to cool before filling the pickling vat, barrel, or tub. This is sufficient for 500 pounds of meat. The sides should be rubbed with salt for two days before being immersed in the pickle. It may be necessary to place sufficient weights on the sides to keep them immersed. The time in pickle will be determined by the size of the sides, but it is usually three weeks.

### Dry Curing.

This recipe has given good results:

| | |
|---|---|
| Fine dairy salt | 50 lb. |
| Brown sugar | 5 lb. |
| Saltpetre (finely ground) | 2 lb. |

Mix well.

For the first three or four days this mixture should be rubbed in over the flesh parts and around the bones and joints. Afterwards spread the mixture freely each day. The sides should be stacked. Alternate the method of stacking, so that the side on the top one day will be at the bottom the following day. Time required, about fourteen days, according to size of side.

Where a sweet, juicy, mild-cured bacon is required, the following may be used instead of the foregoing:

Sugar and fine dairy salt, equal parts. Mix well.

To impart a distinctive flavor, this famous French recipe is given:

| | |
|---|---|
| Fine dairy salt | 6 lb. |
| Brown sugar | 6 lb. |
| Allspice | 1 lb. |
| Mustard | 1 lb. |
| Saltpetre | 1 oz. |
| Bicarbonate of soda | 1 oz. |

Mix well.

Rub over the flesh daily for three days, and afterwards spread on each day for seventeen days, turning the sides in rotation.

### Washing.

On removal from the pickle, or at the conclusion of the dry-salting, the side must be prepared for smoking. The flesh is brushed over with a brush to remove salt, pieces of fat and flesh, and cleaned up. The side is washed in rain-water and soaked in a solution of bicarbonate of soda for twenty-four hours. The solution is made by dissolving one pound of bicarbonate of soda in 20 gallons of clean rain water. This removes excessive saltiness and makes the curing milder. Follow this by washing in clean rain water.

The meat edges and bones are trimmed again. All sharp points of bones and loose or hanging pieces of meat are removed, leaving the side neat and shapely.

Hang the side up to dry in a room, free from dust and insects, with a full current of air for several days. Then lightly rub olive oil over the skin and flesh. It is now ready for smoking.

### Smoking.

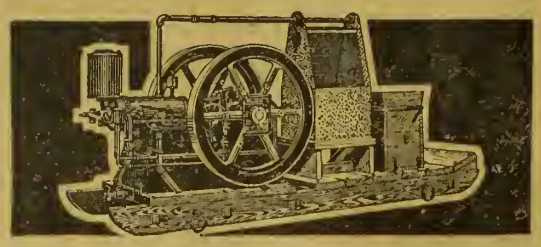
In addition to the preserving action of smoke it imparts a relishable flavor which adds to the value of the bacon.

The process of smoking preserves flesh by coagulating the albumen near the surface and forming a protective covering or envelope. It has been ascertained that in smoking bacon there is no loss of nutriment, and it is as digestible as fresh meat. The smoke creates a distinct antiseptic or preservative action apart from the dried albuminoid coating by depositing on the surface from the smoke creosote, formaldehyde, and pyroligneous or crude acetic acid. These check the action and growth of putrefactive organisms and their processes. They retard decomposition, as well as imparting a delicate and appetizing flavor.

The smoke house should be about 12 feet high, seeing the bacon must be hung from 6 to 10 feet from the floor. The floor should be earthen, brick, or cement, with a depression in the centre, away from the walls, in order to avoid setting fire to the frames. There should be no light, excepting that admitted from the door when open. Sunlight has a tendency to bleach the bacon and deprive it of its natural color.

(Continued on Page 420.)

# IRRIGATE FROM YOUR OWN RESERVOIR WITH AN I.H.C. GASOLINE ENGINE



Water is the great magician that brings life where desolation reigned—transforms the parched land of the cactus into a rural paradise; where luscious fruits, prize garden truck, plump grains and sleek stock abound; where progressive frontiersmen are carving out new empires.

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Don't depend upon the water-ditch that belongs to somebody else. Don't build long ditches and expensive flumes. You have the water. It may be running streams or low-lying ponds. Pump it into your own reservoir.

At times of heavy rainfalls fill your reservoir and have sufficient water through the longest dry spell. You will then have the water when you want it and where you want it.

The modern farmer must use modern methods. He must mix brains with his work; he must fertilize his soil with up-to-date ideas, and the best idea of all is that of an

## I. H. C. Gasoline Engine

This powerful little engine will pump unlimited quantities of water for you at a surprisingly small cost.

A type for every section and every problem—all sizes for all farm uses—vertical, horizontal—both stationary and portable; engines on skids; sawing, pumping and spraying outfits. Also I. H. C. gasoline tractors—first-prize-gold-medal winners—the best all-'round farm tractor by test.

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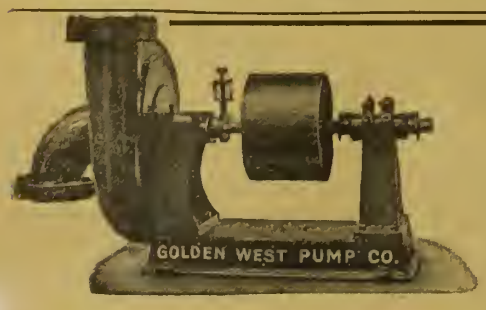


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# Citrus and Sub-Tropical Fruits

## THRIPS.

BY FAR the most serious enemy of citrus trees at the present time in the arid Southwest is a species of thrips. Specimens collected by the writer at Phoenix were sent to Dr. W. E. Hinds of Auburn, Alabama, and from the limited material he tentatively identified the species as Euthrips occidentalis (Pergandi). These thrips are injurious to citrus trees only in hot, dry countries and are becoming quite serious at Hermosillo, Sonora, and in the San Joaquin Valley of California, as well as in Salt River Valley. Thrips are very minute, and keep themselves so well concealed in the growing bud that but few orchardists realize that they are the cause of a serious leaf disease. These insects infest the growing shoots of the orange. Their mouth parts are fitted both for sucking and for scraping or rasping the surface of the very tender leaves. They force their way into the terminal bud where they conceal themselves in the very small and as yet unopened leaves, which they injure seriously by sucking and rasping the tender surfaces. Later, as the shoot elongates and the mutilated leaves unfold, they are distorted, thickened, and permanently much reduced in size, with characteristic whitish markings. Affected leaves never turn yellow and fall, but on account of being so distorted and reduced in size, the twigs are not properly nourished and consequently enter the winter dormant period in a weakened condition. They often die back before spring, when a bunch of small shoots pushes out to take their place. These in turn are attacked by thrips, and the result is a ragged tree with bunchy, unhealthy foliage. Since this imperfect cover fails to afford good shade the larger limbs and trunk of the tree are soon seriously sunburned.

After a very careful survey of the trouble in Salt River Valley, it was found that all varieties are not equally susceptible to thrips injury. The Washington navel seems to be much more susceptible than any other variety observed. Valencia late is attacked to a less degree than the navel. Paper Rind St. Michael seems to be almost free from it, though the trees observed occurred in the same grove with very badly infested navels. Lemons are only slightly attacked, and pomelos seem to be practically free from the trouble. When thrips enter the blossom buds of the orange just as they are opening, they rasp and scrape the surface of the ovary in such a way as to cause injury to the tender skin. After the petals fall and the orange grows in size, the injured skin expands and permanent scars appear which, while they in no way lessen the eating qualities of the fruit, detract seriously from its looks and selling value. In some years the weather conditions during blooming time are more favorable to the thrips than in others, and hence the amount

Oranges Scarred by Work of Thrips.
Courtesy Arizona Agricultural Experiment Station.

Orange Leaf Injured by Thrips Compared with a Healthy Leaf. Two-thirds Natural Size.
Courtesy Arizona Agricultural Experiment Station.

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## All About the Orange and Lemon

Is told in our new book on Citrus Culture, embracing every phase of the subject from the seedling plant to the final disposition of the fruit in the Eastern market. The largest and best book on the subject ever printed—60,000 words, 100 illustrations. You will want a copy, which we will send you for the small sum of 25 cents. Remember we are the largest growers of orange and lemon trees in the world.

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## For Sale, Fine Lot of Orange Seedbed Stock

**Both Sweet and Sour**

Also one-year Navel and Valencia Buds, ⅝ in. up. For particulars call on or address

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## HYDRATED LIME

1 part Taylors Hydrated Lime
3 parts best Resublimed Flowers Sulphur ..... mixed in a common mortar box

Has given highly satisfactory results in many orange groves, gone over by several different contractors using largest power machines, as a dry spray for the

**Red Spider of the Orange**

Hydrated lime is the ideal diluent and vehicle for the sulphur—and reduces the cost.

**$15.00 a ton net in 100 lb. sacks. Sacks 15c extra.**

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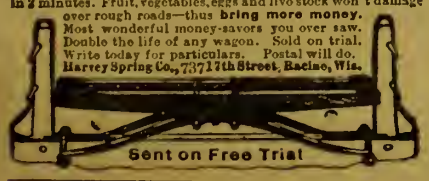
## HARVEY BOLSTER SPRINGS

Change your farm wagon into an easy riding Spring Wagon in 2 minutes. Fruit, vegetables, eggs and live stock won't damage over rough roads—thus bring more money. Most wonderful money-savers you ever saw. Double the life of any wagon. Sold on trial. Write today for particulars. Postal will do. Harvey Spring Co., 7371 7th Street, Racine, Wis.




## Orange Trees For Sale

**Navel and Valencia.**

**J. S. Killian, El Monte, Cal.**

**Phones: Sunset, 8x4. Home, Red 31, or.**

**L. C. Rice, Tropico, Cal.**

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When writing advertisers, mention Cultivator.


of "rind-scar" noticed at the packing house is greater.

At present little is known about the life history of this orange thrips, and no remedial measures have as yet been marked out.—Bulletin 58 of Arizona Exp. Sta., Citrus Culture in the Arid Southwest.

### LEMON TARIFF.

The new tariff bill increases the protection on lemons fifty cents a hundred pounds. It was shown at the tariff hearing that California lemons could be sold in Chicago, because the freight charges from New York to Chicago acted like a protective tariff against foreign lemons, but that they could not be sold, and were not sold, in New York. Here was a case where the tariff protection was demonstrated by actual experiment to be insufficient, and the rates were naturally, and quite properly raised. But forthwith, the railroads proceeded to grab for themselves a half, or nearly half, of the advance. They have added 15 cents a hundred pounds to the freight rates. If the freight rates are gross, and the tariff rates net, as we suppose, then the increase in freight is nearly half of the increased tariff. That means either that the railroads propose to continue to keep California lemons out of the New York market, or else that they think an increased tariff of twenty-five or thirty cents would have been enough to open the NewYork markets. If they are correct in that judgment, of course "the traffic will bear" the other twenty or twenty-five cents for the railroads, and they proceed to take it.

But it was not to protect the railroads that this tariff was levied. Presumably they can make a profit out of the carrying trade of whatever industries are permitted to flourish in California. If it is not one it will be another, but the more industries and the more shipping they do, the better it is for the railroads as well as for the state. So the railroads will get the benefit, indirectly, of the prosperity of any protected industry. If there is profit in shipping the present output of lemons, at a cent a pound, there is more profit in shipping more lemons, at the same rate. If a tariff of twenty-five or thirty cents could have opened the remaining American territory, and thereby increased the shipments, then that was enough tariff to put on. As it is, the railroads have in effect assessed a countervailing duty, to absorb to themselves all of the increased duty above what they thought would accomplish the result. They may be mistaken. At any rate, the lemon growers have a right to protest against the increased rates.—Fresno Republican.

### ORANGES IN MEXICO.

The writer recently had the privilege of a few minutes conversation with Messrs. Ignacio E. Castellanos and Jesus Rivas, both of Guadalajara, Jalisco, Mexico. These gentlemen are making observations of conditions in California. They have large estates in Mexico and have planted extensively of the navel orange. At the time of our interview they were on their way to the picnic of the Claremont Horticultural Club at Pomona, accompanied by Jose Luz Salmon of Los Angeles acting as interpreter. Guadalajara is far removed from the district which harbors the pest called the Morales orange maggot, and Mr. Castellanos assured us that he had no concern as to its ever reaching his groves.

The rainy season in that country is the reverse of ours, that is, the rains fall principally from March to October. Irrigation, though sometimes by means of pumping plants, usually depends upon gravity flow.


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YOU do not consider a GOOD horse an expense, because a good horse will return a profit on the investment every year—so will a good cow.

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If you have an implement on your place that does not work as well as it should then that implement is an expense, because you are not making as much as you could make by using a better one.

**JOHN DEERE IMPLEMENTS**
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A Nebraska farmer retiring from business after advertising all his property closes his sale bill as follows:

"And now one JOHN DEERE stirring plow which has been in continuous use for 15 years—the plow that cleared the mortgage off this farm."

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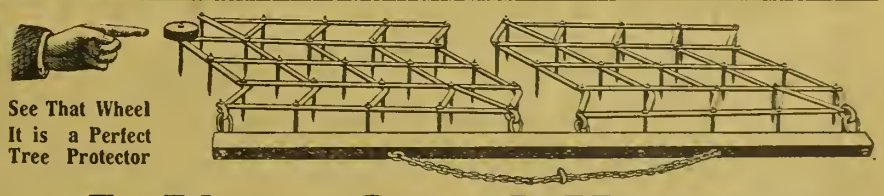

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I have found a remedy that never fails to cure, usually by one application.
It has been used the past two years and has always proved affective.

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For 1910 Spring Planting. Every plant from Genuine Selected Florida Sour Seed. Also ***Sweet Stock. Don't*** buy uncertain and inferior grown plants. This is nursery gospel. ***Don't*** waste time and money on inferior stock when you can get the best in Southern California for the same price. ***Don't*** take my word for it; come and see my plants in seedbed and nursery and be convinced. Plants are ***8*** to ***20*** inches now and ***5*** months yet to grow.

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A complete line of Nursery Stock. Special prices on Peach, Plum and Apricots. It will pay you to let us figure with you before placing your order for Spring planting. All stock guaranteed true to name.

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Has diaphragm pump and throws the strongest spray. Write for description.

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Best stock in the State; every tree guaranteed; no seedlings.

**Well Hardened Eucalyptus Trees**

"Those we got from you did very well, but what we obtained from—practically all died; they were too tender to start with." (Extract from letter received from a Sacramento planter.)

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New fruits and all Best Older Varieties. Ornamental and General Nursery Stock. Write for Catalogue.

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**SEEDS**

A full line of strong, vigorous seeds that will produce an excellent crop. Improved varieties of the best quality and choicest selection. Prices exceptionally low for the very best seed. We have seed specially suitable for various sections of the state. Let us quote you prices. We can save you money. Large and small orders carefully and promptly filled.

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# Deciduous Fruit Culture

## JULIAN APPLE RAISERS.

SOME of the finest apples produced in California are grown in the Julian section, a mountain district of San Diego county, back some thirty-five miles from the city of San Diego. The one unfortunate feature with the section has been that its means of transportation were not at all satisfactory. Hopes are entertained, however, that the early future may see some method of getting to market its fine fruits. But little effort has been expended to make this section known to the world, but recently the Improvement Club determined to have an "Apple Day." It succeeded remarkably and the estimate is that over 500 people visited the mountain town from outside districts. Regarding the exhibits, we quote as follows from the San Diego Union:

"Fully fifty automobiles, mostly big ones, made the trip, and, considering the road difficulties faced, the auto people had lots of luck.

"The women of Julian provided dinner for any number up to 600, and the celebration committee had bought 500 big attractive Apple Day buttons to give away—visitors first. So it was evident that the calculations had been for 500 people, providing the weather behaved good.

"The supply of labels ran out before the demand was satisfied, but there was no such thing as a shortage in dinner supplies. The "free dinner" was a thing long to be remembered. Lots of tender chicken, toothsome ham, choice mutton and pies that were no relation whatever to the pie of commerce, all combined to make the "free dinner" a free banquet.

"But the thing the people came to see—the display of apples and other mountain products—was surely an eye-opener to every visitor there. Among those who looked with wonder and surprise on the room full of the choicest things the country can produce were some who had seen similar exhibits at Seattle and previous exhibitions, and Chester Gunn, well known as an apple authority, expressed the opinions of these when he said that there had been nothing shown at any of the places that could come up to Julian.

"Hundreds of boxes of apples of the qualities that more than once have beaten those of all the United States, were on exhibition, and they were surely a sight for the eye to behold.

"To show that Julian has something more than apples to depend on, there were in evidence fine assortments of grapes, pears, peaches, plums, quinces, walnuts and almonds, and, in the vegetable line, big pumpkins, melons, squashes and turnips.

"There were also on exhibition fine potatoes, corn, cabbages, cauliflowers, beets and sunflowers and even cotton. Samples of honey—another important district product—were shown and as proof that the women folks in the mountains know how to put up preserves at their best and in the old way, there were to be seen many and varied toothsome dainties in bottles and jars.

"The whole center space in the town hall was taken up by the exhibits, the front of the platform was also covered and there were tables of fruits and vegetables all around the sides. At the lower end of the hall the girls of the district had distinguished themselves by building a trellis of the choicest kinds of grapes, and showing across the face of it, made of rosy little apples, the words, "Apple Day, October 9th."

"On one side of the hall were the "help yourself" boxes, and these, like the widow's cruse of old, never seemed to empty, although the many hundreds of people helped themselves all day to delicious apples, grapes and other fruit luxuries. Outside were barrels of cider of a very palatable kind, and this was the only thing sold during the day—five cents a time for a big glass, and anyone who went there once came back again.

"The biggest showing in fruit exhibits was put up by W. L. Detrick and Rex. B. Clark, but there was hardly a ranch or orchard in all the mountain country around Julian that was not well represented. All had done well when called upon to demonstrate what the district could do.

"Taken altogether the exhibition was worth coming a long way to see and the hard-working committees who got it together—some of the men had worked every day for nearly two weeks—deserved richly all the words of praise that the visitors gave for the whole show."

The San Diego Chamber of Commerce proposed to the Julian people to continue the exhibit if they would forward it to San Diego. This was decided upon and the San Diego people were given an opportunity of seeing highly colored apples. When the railroad is built through that mountain valley, we doubt not it will be heard from more often.

## IMPORTANCE OF SELECTING BUDS AND CIONS.

The selection of buds and cions is the most important item connected with the growing of nursery stock. What does it matter how large and strong, healthy and symmetrical a tree is if it is a poor strain of the variety. That there are excellent. good and poor strains of any established variety of fruit, it requires only fairly good eyesight to prove while passing through an orchard. Some trees are heavy and quite regular bearers of fine, large, highly colored fruit, while others are indifferent bearers of small light colored fruit. Since in nature the tendency is for the progeny to resemble its parent, it is only good common sense to follow the practice of taking buds and cions from trees known to be superior types of the variety. Thus a choice strain of the variety may be secured. Such a strain is often called "pedigree" stock, and it may or may not merit the name.

Fruit growers should understand the advantage of procuring trees thus propagated, and also understand that it entails added expense to the nurseryman to produce such trees and he must necessarily receive a higher price for them than for ordinary trees. The fruit grower should willingly pay the extra price, knowing that it is the best investment he can possibly make in nursery stock.

# Scalefoe

Greatest Known Spray or Wash for Scale: San Jose, Black, Red, Purple and Brown. Also a sure thing for Red Spider, Canker Worm, Moss, Gum Disease, Silver Mites, Mealy Bug, Caterpillars, Lice, Codling Moth, and all Insects and Bugs that infest plant life; without injury to the plants, and with positive benefit to the soil, when applied.

This has long been the leading Spray or Wash in many sections of the country, wherever introduced. We have bought the formula and the rights for this section and are putting it out under our own brand. No article can bear the "West Coast" name unless it is the best of its kind. We guarantee Scalefoe to be just as represented. Send for circular with many testimonials.

Gallon can, 85 cents; 5 gallon can, $3.75. If not sold by your dealer will send gallon can for $1 or 5 gallon can for $4, freight prepaid by us within 200 miles. Write for price in barrels. Mix 20 parts water to 1 part Scalefoe, before using; makes it the cheapest as well as the best. Satisfaction or money back.

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## West Coast Mill

**Los Angeles, Cal.**

Makers of the celebrated

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## TREES of All Sorts

25 years experience in growing nursery stock. 1500 acres devoted to the business. California Horticulture, The Fruit Growers Guide, fully illustrated, describes 2000 different varieties of trees and plants. Contains valuable information. Sent post paid for 25 cents in stamps.

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without buying any more land or without working any more land. This is not done by any magic process but simply by using

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Since it is entirely impossible for the nurseryman to obtain enough buds and cions for his purpose from desirable bearing trees every year, the practice of using buds and clons from nursery trees of selected strains must neccssarily be followed for a year or two at a time, but this should be done as little as possible and bearing trees should be depended on for budding and grafting wood every second year.

The old practice of propagating year after year from nursery trees is unsatisfactory and unreliable and should be condemned. Nurserymen often continue propagating varieties for years in this way without ever seeing the fruit and do not know whether or not they have the variety true to name. As soon as the fruit growers demand better bred stock and are willing to pay for it, the old practice is doomed and the sooner this occurs the better it will be for the industry of fruit growing.

The best method of all for the fruit grower if he depends upon purchasing his trees, is for him to select the budding and grafting wood, send it to the nurseryman, and employ the nurseryman to propagate the trees. Thus the fruit grower does the best possible thing for himself and for the fruit growing industry.—From Bul. 130 of Maryland Exp. Sta.

### HOW NOT TO PLANT TREES.

Some interesting experiments have been made at Woburn Farm and other places in England to demonstrate the proper way to set trees.

Most of us have been planting trees in the same way since tree planting was begun. First, a large hole was made, the roots carefully spread out in all directions, the soil filled in by hand in a way to keep the roots in as nearly their original position as possible, the hole filled a litte more than level and then trodden down.

According to the reports from England this is all wrong. The proper way is to make a small hole, double the roots up any old way, jam the tree in, ram down the soil as hard as if one were setting a fence post.

The results of the English experiments show that 59 per cent of the trees planted in this way showed in favor of ramming, 27 per cent showed no difference at all and nearly 14 per cent were against the fence post method.

Trees that were rammed down showed a copious development of fibrous roots.

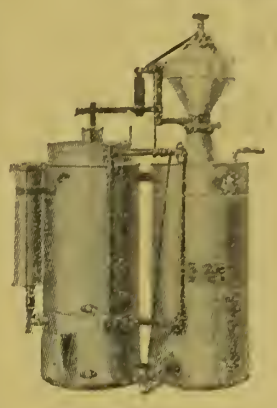
Experiments further show that the fibrous and small roots produced in the nursey before digging play no great part as roots during the subsequent life of the tree.

### NEW BORDEAUX MIXTURE.

A Bordeaux mixture that is said to be superior to and cheaper than that made according to the commonly accepted formulas is recommended by the Woburn Experimental Fruit Farm, England. The new Bordeaux mixture is made by slaking three pounds of quick lime in about 100 gallons of water and then adding 86 gallons of this clear solution to 14 gallons of water in which six pounds, six and one-half ounces of copper sulphate has been dissolved. This will yield 100 gallons of a clear Bordeaux mixture.

A farmers institute will be held at Turlock November 8 and 9.


## Use Gas in Your Home for Lighting and Cooking



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is Automatic, Safe, Satisfactory. A Brilliant Light in Every Room. A Clean Fire always ready to cook. Hot Water if you wish. No trouble to operate. Let us tell you about it. Catalogue mailed free on request.

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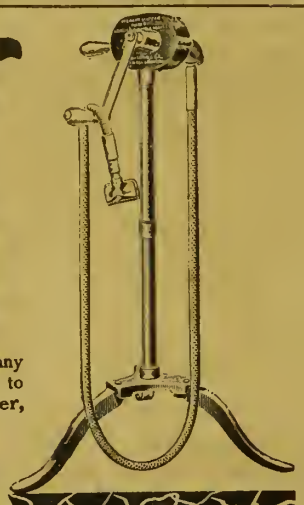

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# Live Stock and Dairy

Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

## TRICKS.

By Mrs. M. E. Sherman.

MANY of the tricks and vices of the ordinary domestic animals seem to be inherited. If they are not inherited they arise from a condition that is inherited. The cow that kicks has often a daughter that kicks. This may be from some stricture of the udder that is inherited, that makes the milking painful. It may be a kink in the cow's brain that is inherited and under certain conditions the action is transmitted to the hind leg. The milker sprawls on the ground and the milk is spilled. This trick is undesirable and when a cow persists in kicking send her to the butcher. Her own profits are eaten up by the habit of mind the man having to milk a cow like this acquires. It is hardly possible to be gentle and kind after a cow has kicked you over. That cow knows you do not like her and she goes from bad to worse. Get rid of her and keep the milker sweet.

### Self Sucking.

This vice is said to come to cows that are staked and lack water to drink. If this is so they are to be pitied. Yet we do not keep a cow out of sympathy for her afflictions but to give us milk. If the cow takes the milk herself it is merely a case of a circle within a circle with nothing left for the outsider. The first case we ever owned was a common red cow that came with a ranch we purchased. When her depravity was detected she was let run along until she freshened with twin heifers. She was sent to the butcher and the twins were raised with the other calves. One was all right; the other, after her second calf was dropped, took to self milking. She was promptly sent to the shambles. Her daughter proved to be a self milker and the daughter of her sister also started in to the same practice. These three were beefed and it left only the one of the twins. This twin had six heifer calves. Three were self milkers. I concluded I would beef them all and not be troubled with this cropping out. I have not had the trouble since. In all I handled eleven of these self suckers, all ten the descendants of this one old red cow.

### Prevention.

The prevention of this vice is not easy, for it is apt to interfere with the cow's way of eating, sleeping and licking herself clean. The first device used was a hollow bit. This was soon discarded as the cow could not eat well nor chew her cud. She lost flesh rapidly. The next thing used was the common bull ring in the nose, with two smaller bull rings hung on it loosely. This proved no good as the cow managed to tangle up the hay on it and it interfered with the grazing. The only way to keep the cows fat was to feed them heavily in the barn with grain, and this did not pay. Five of these devices were in use and three of the bits, and they were used on more than one cow so that in condemning them we felt we were justified. After the experience we had, the neighbors came to borrow these instruments of torture. One cow killed herself by choking on the bit; another tore off a teat with the rings. Whatever is used on a cow, we must remember she is one of the most awkward of animals as well as the most persistent. She must be guarded from injury.

### Staves.

The next thing tried was a corslet of barrel staves around Bossy's neck. These staves were taken from a small barrel and had a short staple driven in near each end on the upper side. The square corners were rounded off and then a heavy maleable iron wire was passed through the staples. The whole affair was carefully fitted and then the staples were driven home on the wire and carefully clinched on the underside. The ends of the wire were turned into rings and a hame strap used to buckle the affair around the neck. This worked on all except one cow and she learned to get half over on her back and twist over so that she could get to half her udder. She caught herself when down one day and nearly died before released. A self milking cow is nearly always on one's mind. You wonder how she is each morning, whether dead or alive. The common device of putting a seatless chair over the cow's head I notice on a cow between here and town, but modern chairs are not put together with strength enough to make this arrangement lasting. This same cow had another cow put in the corral with her and was nursing her the other day. Evidently she is a milk lover.

### Another Plan.

The foreigners here split the cow's tongue to prevent self milking. This is good in that it stops the habit, but it is bad because in many instances the cow loses the power of rolling over the cud. I have seen an arrangement of two sticks with a surcingle. The two sticks came up on each side of the cow's shoulders and were fastened to the cheek straps of the halter. The other ends of the sticks were secured to a surcingle around the cow's body. These work well enough in most cases and are a modification of the usual plan. The standard form seems to be the halter on the head with the surcingle around the body with the broom stick swinging between the front legs. The end of the stick at the halter is given enough swing on a short strap not to bind on the breast. In some cases it is necessary to give as much play at the other end. This, however, must be regulated by the individual to fit the cow. None of these devices are perfect; none of them will overcome the difficulty absolutely. There are some cows that will find a way to get the milk no matter what happens. The way out of the trouble is not to keep the cow but send her to the butcher as quickly as possible. I know where there is only one cow and she is bought cheap because of

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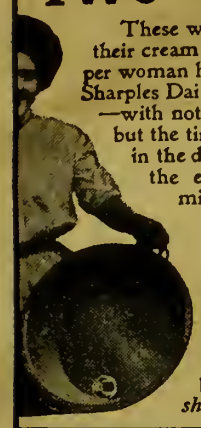
# TWO WOMEN



These women start to wash their cream separators. The upper woman has a simple, sanitary Sharples Dairy Tubular Separator—with nothing inside the bowl but the tiny piece here shown in the dish pan—and washes the entire bowl in two minutes.

The lower woman has a common, disk-filled cream separator—with 40 to 60 disks inside the bowl—and spends twenty minutes washing the bowl. *She wishes she had a Tubular.*

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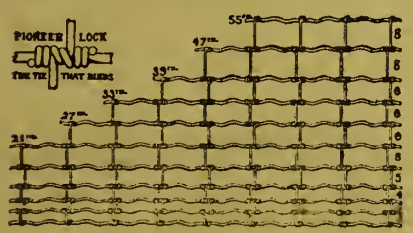

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My Berkshires took 9 First, 6 Second and 4 Third Prizes and both Gold Medals. 50 Head For Sale.
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this vice, people will keep her. They should, however, be willing to let the cow beat them sometimes if it is all considered in a day's work. The trouble is that we Americans do not take the foreigner's view of things. An old Swede living down the road a little piece, has a self milking cow. He was standing looking at her and said to me: "She is mean to take her milk. I am mean to put that ring with nails in it around her nose and that stick between her legs. Two mean things together, each trying to beat the other. Well, we will not worry about it for when she gets meaner than I am, I can have her head cut off and still get thirty dollars out of her." I thought he was right. Why worry when he was master at least of the cow's fate?—M. E. Sherman.

## TREATING THE OVERHEATED HORSE.

When during hot weather the hard-worked horse suddenly stops sweating, lags, weakens, pants, and has hot, dry skin and extremely reddened membranes of the eyes, nose and mouth, he is suffering from heat exhaustion, and by using the thermometer it would be found that his temperature is over 106 degrees.

Unless a horse in this condition is immediately rested, put in a cool, shady, breezy place and there cooled off, he will be likely to fall and quickly die of heat apoplexy or "sunstroke."

It therefore is well to know and look out for the symptoms here outlined and then be able to treat them intelligently.

In the first place it is important to remember that heat exhaustion may be largely prevented:

By keeping the horse's stable clean, airy, perfectly ventilated, darkened and screened in summer time.

Feeding the best of foods in adequate but not extreme quantities.

Making no sudden changes of food.

Allowing plenty of cool, pure drinking water.

Permitting ample time for rest at noon.

Removing the harness during such rest periods.

Not overworking any horse and always changing frequently the middle horse of a three-horse team, as he suffers fearfully from the direct rays of the sun.

Also shade the polls of horses at work and in such a way that air can pass under the shading hat, shade or other cover.

Clip the horse if his coat is long and coarse at the commencement of summer work and protect the skin by a light, open meshed sheet—white.

When a horse shows symptoms of heat exhaustion, stop work, stand him under a tree where there is a breeze, shower his body with cold water from a sprinkling can, keep cold wet packs to the poll of his head and give him large, frequent doses of stimulants such as whisky in strong cold coffee.

Do not bleed him or give him aconite or other poisonous drugs. Repeat the dose of stimulant every half hour at first and every hour or two as he gains strength and the fever abates.

A good stimulant is prepared by mixing together one part of aromatic spirits of ammonia and two parts each of alcohol and sweet spirits of nitre.

Of this give two ounces in a pint of water or cold coffee as one dose.

Dissolve an ounce of saltpetre in half a pailful of water and allow him to drink a little of it often.

If he is bloated give four ounces of hyposulphite of soda dissolved in water and inject soapy cold water and glycerine into the rectum once an hour until relieved. In case of sunstroke call in the graduate veterinarian as soon as possible.—Ex.

## NORMAL FEEDING RATIONS FOR DAIRY COWS.

The average amount of dry matter eaten daily by a cow weighing 850 pounds and in full milk, will be about 25 pounds. Some animals require more and some less; consequently study of the individual animals will determine the exact amounts to feed, but the following are average rations for the ordinary cow, being fed for milk and butter, mixing by weight (not measure):

Two portions cottonseed meal, three portions corn meal, three portions wheat bran, 15 portions grass, hay, clover or fodder.

Or two portions cottonseed meal, six portions corn meal, eight portions good hay, corn fodder or clover, eight portions cowpea vines.

Or forty portions ensilage, seven portions common hay, seven portions shorts, three portions cottonseed meal.

Or sixteen portions clover hay, six portions corn meal, six portions bran or shipstuff, four portions cottonseed meal.

Or six portions clover hay, six portions corn stalk, cut and shredded, six portions cob meal, two and one-half portions cottonseed meal, forty portions ensilage, six portions corn meal, three portions cottonseed meal.

Or as recommended by Connecticut Experiment Station, twelve and one-half pounds hay, five pounds corn meal, five pounds wheat bran, two pounds of cottonseed meal.

NOTE.—By reading all of the above as "pounds" instead of "portions," you will get an average daily ration per cow.—Holstein-Friesian Register.

## HINTS ON PIG REARING.

Do not make the food too sloppy.

Keep plenty of charcoal in pen.

Put a packet of Epsom salts in the food occasionally.

Castrate pigs at three weeks, not later.

Observe regularity in feeding, and let them out for a run occasionally.

---

It is especially important that alfalfa intended to be fed to hogs should be cut early. An experiment at the Kansas station showed that a ton of early cut and well-cured alfalfa hay fed with grain, produced 868 pounds of pork, while a ton late cut and poorly cured, fed with grain, produced only 333 pounds. For fattening hogs it is well to feed about one ton of well-cured alfalfa hay with each 250 bushels of grain.—From Coburn's "Swine in America."

---

The Patterson Ranch Co. at Modesto is preparing to irrigate 20,000 acres of land on the West side.

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Five hundred tons of hay were destroyed by fire recently at Turlock.


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# Small Fruits and Vegetables

### THE TOAD.

IN your paper of Sept. 23, you have an article on the toad. I endorse all you say about its protection, for it is a very useful and interesting little animal.

Let me tell you some of the things I know about him. When I was a boy I was told if I hurt a toad, the first time I went barefoot I would stub my toe so hard it would hurt, as I did not want to be hurt, I did not hurt the toad. As I grew older and found how useful he was I had another reason for not hurting him.

I came to Pasadena to live some years ago and having friends in Alhambra would occasionally drive over. As I was born with a good pair of eyes, I use them, as I go through the world, I look around and and notice things.

While driving a few years ago in early spring, perhaps February or March I noticed a reservoir full of water by the side of the road; as there was no wind the surface of the water was as smooth as glass. I drove on a little farther and came to another reservoir. The water in this one was rippled all over, quite rough. I thought it strange as it was still calm and I must see about it. Before I got to the bank I saw some toads! going up the bank, I saw some more toads! on the top of the bank still more toads! over the bank more yet and the water was just full of toads, thousands of them. There were large toads and small grey toads and dark colored toads and toads with tails which looked like a cord made of jelly enclosing a string of black beads. Some of them were sitting on the bank, some were swimming and some big fat ones crawling on the bottom. They all seemed to be having a good time, a sort of family gathering. Well I looked at them and then drove on.

Two or three weeks after I was driving over the same road and thought I would take a look at the toads, and lo, there were none there, a few dead bodies floating about, but no live ones. Instead there were millions of black tadpoles, the bottom was completely covered for eight or ten feet from the shore and in the middle of the pond several square rods covered with them. This told the object of this meeting. We know that fish will go to the place where they were hatched to deposit their spawn and from this I should think that California toads had the same habit.

At the East we find them in every puddle. I do not see many toads here and so think some must make a long journey together. Toads are not noted for their speed; when you send a boy on an errand, to say he goes as fast as you can whip a toad doesn't mean he will be back very soon, so I think some of these toads must spend a large part of their lives going and coming from the breeding pond.—L., Pasadena.

### INVESTIGATING CELERY BLIGHT.

Notwithstanding the extended and most excellent work done by Prof. Ralph E. Smith with the celery blight, he is now directing another line of work in the fields of Orange county. His assistant in immediate charge of the field work is Mr. S. S. Rogers formerly connected with the Spreckels Beet Sugar Experiment Station. Mr. Rogers has been in the field a couple of months and probably will stay through the entire season, making observations as to the blight and the conditions which most favor its growth, also making experiments with various fungicides.

### SOUTHERN GARDENER'S PRACTICAL MANUAL.

We have before us a copy of the Southern Gardener's Practical Manual written by Mr. J. S. Newman and sold by the Orange, Judd Co. of New York for one dollar. It is a valuable little book of 220 pages and comes nearer to striking California conditions than most eastern gardening publications. Of course it is not written with a view to arid locations, but at the same time it contains points helpful to the California gardener. It treats of soils, classification and manner of formation, composition of plants, methods of fertilizing and sources of fertilizer, but the main body of the book is given up to practical gardening methods, rotation of crops, intensive gardening, forcing early vegetables, garden tools, mulching, different varieties of vegetables and small fruits, etc. The calendar for spraying and planting contains some helpful suggestions, though largely applicable to eastern conditions. In the preface the author says:

"Believing that a more abundant and continuous supply of tender, fresh vegetables and luscious fruits upon the tables in our southern homes, replacing to some extent the deadly frying pan and the omnipresent canned goods, will contribute to health, refinement and intellectuality, I feel that my declining years can, in no other way, be more appropriately spent than in an earnest, honest effort to render our farm homes more attractive and their occupants more healthy and happy.

The true gardener loves his plants as living companions, and enjoys their successful growth as he does the happiness and prosperity of his children. Plants respond to kind, intelligent treatment, and manifest their gratitude by supplying more abundantly and perfectly their treasure of flowers and fruits. The fragrant rose greets with blushing pride the coming of its kindly benefactor, and seems to delight in his affectionate admiration. There can be no contamination from association with plants, and no danger of deadly disease germs in the consumption of their products."

In starting vegetables or flowers in the house it is a good plan to cover the boxes with wet blotting paper or wet newspapers until the plants begin to appear, to prevent the top soil drying out. A crust is not so likely to form over the top of the dirt at any later time if the boxes or cans are set in a pan of tepid water until the moisture is drawn up to the top by capillary attraction, instead of pouring water over the surface.


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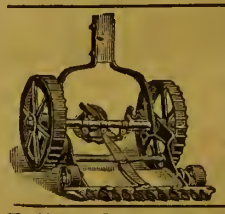

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# The Ornamental Garden

## THE CUT-FLOWER INDUSTRY.

THE following advice applies to roses only, and is based on the experience of one establishment consisting of thirty-seven greenhouses. These houses are built in two "ranges," one range being heated with steam, the other with hot water, each range having its own heating plant and crosshouse. The individual houses vary in width from thirteen feet to twenty-three feet four inches, and are one hundred and fifty feet long. Cut roses are the only product, each house being devoted to one variety of rose. Two small houses, ten by one hundred and fifty feet, are used for propagating and for housing the young plants.

In choosing a locality in which to establish a business for forcing plants for cut-flowers, three very important items are to be considered: first, economy in obtaining fuel; second, nearness to a good and sufficient market; third, suitable soil.

### Glass Houses.

The successful forcing of roses depends very largely on an abundance of light: hence, the question of light and shade must be considered in choosing the site. The ranges described have their cross-houses, running due north and south, with the greenhouses proper running east and west. The idea is to so place the houses that the rays of light will fall as perpendicularly as possible on the glass. It has been suggested that a better method would be to deflect the whole range a little to the west, thus getting more sunlight during the short winter days. The houses should be sufficiently far apart that the ridge of one house may cast no shadow on the one immediately behind. The same consideration must be given to other buildings in the neighborhood, also to the proximity of factories or railroads using bituminous coal, as the smoke from this coal cuts off a large share of sunlight and makes a greasy, obscuring deposit on the glass.—From Cyclopedia of American Agriculture. Reproduced by permission of The Macmillan Company, New York.

## EUCALYPTUS FICIFOLIA.

The specific name of this variety of the genera, of the order Myrtaceoe, to which the sweet-scented myrtle belongs, signifies fig-leaved. Why it should be thus designated is difficult to understand, since the foliage of both subjects are wholly unlike, i. e., the tree commonly known as the fig. To be sure, rubber trees belong to the same family, the foliage of some of the members being much like that of the eucalypt under discussion. Nevertheless, we believe the name to be misleading, therefore inappropriate.

This part of the history of this, the most beautiful when in bloom of all eucalypti cultivated in Southern California, is not the one we wish to discuss. It is its value as an ornamental plant that we desire to call attention to at this time. When in bloom, for gorgeous coloring it is unsurpassed. The plants growing hereabouts vary in habit of growth and in precocity of bloom. In 1908 we planted two trees in the open from gallon cans. They were about the thickness of a lead pencil and four feet high. This season the one bloomed profusely, while the other did not have a bud on it. The flowers were very beautiful, though not of the intense scarlet color that characterizes the true type; moreover, it bloomed during July.

The thought suggested by the plant in question is that, for a decorative house plant, if tub grown and encouraged to throw out branches from base to summit, when in bloom it would have no equal, and when not in flower, equal to any other evergreen plant in appearance. To perpetuate the variety it will be necessary to propagate it by cutings or budding. Here is a suggestion for our progressive nurseymen who care to excel in fine stock and give to those parts of the world the most beautiful of all ornamental plants when in bloom, where climatic conditions are such as are found in Southern California.—Pacific Garden.

## THE HOME GROUNDS.

There is much room for improvement in arranging buildings, and planting trees and shrubs on the grounds about the farmhouse. A lack of division between the farm home grounds and the barn yards is one of the chief causes of lack of attractiveness about so many farm houses. If buildings are already in place, it is possible in most instances to locate the hog yard, calf pens and poultry yards at a point most remote from the house. Then put a street three or four rods wide between the house and the barn and plant shrubs or low growing trees along border of street next to barns. In time a permanent screen will be provided that will shut out any objectionable view from the house.

Where grounds are being laid out a good arrangement is to have the home lot on one side of the public highway and the barnyards and business side of the farm on the other, not directly in front of each other, have a slope if possible from house toward barns.

This is a good time to use paint liberally. Remember that a well kept country home means from $5 to $10 more per acre when it comes to the selling time. More home beauty, brethren, means a more contented and happy family. Think on these things now.—Successful Farming.

---

There are 200 species of roses in existence, though perhaps not more than 50 clearly defined families. Of these two are of American birth. There are thousands of varieties, however, and of these our enterprising rose growers have contributed by far the largest proportion. The eagerly sought black rose is still unproduced, though a New York florist has a dark-red one which in some lights had the appearance of black velvet.

---

Keep all blossoms cut as soon as they wither, and do not allow seeds to form—unless you really want seeds.


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ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, October 28, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

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## Farm Census.

THE Bureau of the Census is giving out information as to the line which will be taken next year. There is to be a special effort to get complete agricultural returns, and the bureau asserts that these will be classified so as to be of greater value to the country than has any past census. The census of 1900 showed that the United States was still primarily an agricultural country. The total farm value on June 1st, 1900 was about twenty and a half billion dollars, more than twice the capital invested in manufactures. Seven million farmers are conducting agricultural operations on separate farms.

The farm census is taken primarily for the benefit of the farmer, and upon the accuracy of the information given the enumerator by the farmer next April depends to a large extent the value of the statistical work to be carried on in the farmer's behalf during the next five years, not only by the federal and state departments of agriculture, but by students of agricultural conditions in all parts of the world. To what extent the very marked increase during recent years in the cost of living, and especially in the cost of certain kinds of farm produce, is due to shortage in production, is a question of vital moment to a vast number of people. A complete and accurate census of farm areas, products, and values will furnish data which, studied in connection with the revised population figures, should throw much light on the great question of our national food supply. The farmer and the urban consumer alike desire information along these lines. It lies with the farmer to provide it.

The scope of the farm census takes in the following:

"The schedules relating to agriculture shall include name, color, and country of birth, of occupant of each farm; tenure, acreage of farm, acreage of woodland and character of timber thereon; value of farm and improvements; value of farm implements; number and value of live stock on farms and ranges; number and value of domestic animals not on farms and ranges; and the acreage of crops planted and to be planted during the year of enumeration, and the acreage of crops and the quantity and value of crops and other farm products for the year ending December thirty-first next preceding the enumeration.

In accordance with this act the Director of the Census, after calling into conference the proper officials of the United States Department of Agriculture, and also leading authorities on agriculture from all sections of the country, sought and received many valuable suggestions from practical farmers regarding the specific questions to be asked. The schedule adopted is both simple and complete. Every question asked calls for information that is of genuine interest to all farmers.

The schedule may be divided into five parts, as follows:

1. Personal information regarding the farmer.
2. General information regarding farm acreage, values, and expenses.
3. A statement of the acreage, yield, and value of farm crops harvested in 1909, and of all animal products—that is, dairy products, eggs, live stock sold, etc.
4. An inventory of all live stock, including poultry and bees, on hand April 15, 1910.
5. Miscellaneous information.

Under miscellaneous farm expenses and values are included amounts paid for fertilizers, crops and animal products, and these are further divided into fruits, nuts, vegetables, fruit and forest products, etc. Farmers are requested to begin keeping of memoranda and data that they may answer such questions as the enumerators may ask.

## Institutes for Women.

"AN IMPORTANT PROBLEM in education in the United States is that of reaching country women with information suited to their needs." These are the opening words of Circular 85, Office of Experiment Stations, on "Farmers Institutes for Women." The bulletin touches upon the need of more extended knowledge of domestic duties, relations of women to rural schools, education adapted to women, and refers to the fact that of the 37,244,145 women and girls in this country in 1900, about thirty-five per cent, or over 13,000,000 lived in rural districts. Many of these reside in sections where only the most limited facilities for education are provided, and are in need of every possible uplift. This it is hoped may inspire providing institutes for them, not only local institutes but a county organization made up of small bodies. A form of constitution is given in the booklet, as is also one for a state organization.

It is stated that Illinois voluntarily aids in supporting women's institutes. In fact, these institutes have already been held in half the states of the Union. California is behind in this, never having held such an institute and having as yet made no preparations for the future.

## State School Law.

WE have received from Edward Hyatt, Superintendent of Public Instruction for this state, a copy of the school law of California. This is materially different from former issues in that the last legislature made more than fifty changes and additions to the school law. One hundred and fifty bills relating to education were introduced, but of course most of these failed of passage. The present revision is issued in a 20,000 copy edition and is distributed through the county superintendents.

One feature worthy of notice is the new law authorizing supervision of health and development of children in the schools, already taken advantage of by Berkeley, Oakland, and Los Angeles. We believe this and other changes should be studied by those in charge of rural districts. A provision of particular interest to rural communities authorizes transportation of pupils living at a distance from the central school of the district. The act establishing a new state normal school at Santa Barbara is also given.

## Yuma Indian Reservation.

THE Interior Department has announced through the General Land Office that the Yuma Indian Reservation will be thrown open for entry, registration to begin on January 5th at Yuma. The unit allowed each settler will be forty acres, and after reservations have been made for the Indians, there will be 9,400 acres for the white settlers. The Indian allottment has been increased from the five acres first announced, and now each member of the tribe will receive his ten acres as was urged by many friends of the Indians. At the same time, the public lands under the Roosevelt dam will be thrown open for registration and allotments made. In this body of land there are 148,000 acres. The drawing on both of these projects will be in Yuma on February 6th.

POTATOES are in very favorable condition as compared with the past ten years. If 100 represents the average production for the ten years, this year's production would be represented by 103.8; wheat by 115.5. Our wheat crop will be one of the biggest ever this year.

## The Curing of Hams and Bacon.

(Continued from Page 411.)

What ventilation is provided, and some is needed, it should be under control. The aim is to surround the bacon with a dense atmosphere of smoke at a low temperature.

Many methods of creating a proper class of smoke are applicable. White pine, oak, cedar, or hardwood sawdust, with damp corncobs and a few green eucalyptus leaves will answer from which to kindle a fire with a good development of smoke without much heat; or sprinkle essence of smoke (pyroligneous acid or crude acetic acid) over the smouldering sawdust.

In case of direct heat reaching the bacon hanging over the fire, this can be avoided by having a sheet of galvanized iron placed a few feet over the fire, supported on loose bricks. The smoke must be conveyed to the bacon as cool as it can be. To do this, care must be exercised in preventing direct heat reaching the bacon.

In deciding the length of time to apply smoke, judgment must be used. The desirable color is a light brown tan. To obtain this, smoking may occupy any period from thirty-six hours to five days. The character of the flesh, its thickness, and other characteristics must be estimated in order to obtain perfection in determining the color and flavor imparted by smoking.

Finish the sides now by dressing and rubbing the skin and flesh with pure olive oil. Smoked bacon will hang well in the smoke-house until required, provided reasonable care be taken to exclude insects and keep the smoke-house dark, dry, and cool. Any degree of dampness or moisture in the atmosphere in which the bacon hangs will end in mouldy bacon.

Where it is proposed to pack the bacon or ham in order to preserve it against attacks from insects or other troubles, the flesh is rolled in bran, oatmeal, shelled oats, or pea-meal, wrapped in newspapers, and stowed away on shelves or in boxes.

Every effort should be made to prevent blowflies and other pests getting access to the surface of the meat. They leave eggs on the flesh and in its numerous interstices; later on these give endless trouble. A simple means of checking their depredations is to sprinkle the surface of the meat with black pepper or a mixture containing this and cayenne pepper.

Another effective plan is to saturate clean bagging, in a creamy mixture of lime and water, and wrap the ham or bacon previously rolled in oat or pea-meal. Stitch the covering closely round the flesh.

# Agricultural News Notes of the Pacific Coast

## Northern California

Tehama county is shipping its mohair clip.

Capay Valley, Yolo county, is shipping almonds.

The Santa Rosa cannery is now running on tomatoes.

Santa Rosa prune shippers are forwarding prunes to Germany.

Placerville held a most interesting farmers institute last week.

With hops still increasing in price, Santa Rosa hop growers are greatly elated.

Nevada county will ask the government to send expert engineers to plan a road system.

A successful test of eight cars of fruit was recently made at the Roseville pre-cooling plant.

Colusa county contemplates a half million dollar bonding scheme in the interests of good roads.

Cloverdale's fall wool sale resulted in the sale of 300 bales at 16 cents. The fall clip is said to be exceptionally heavy.

Directors of Levee District No. 1 in Sutter County have awarded a contract for repairing and improving the Tule levee.

The beans of Sutter and Yuba counties are reported in good condition and not injured by the recent storm. Prunes escaped, having been mostly harvested.

El Dorado county claims to have supplied to the governor of Chihuahua the fruits served at the banquet tendered President Taft at the Mexican line.

Over a million and a half feet of fine lumber was destroyed in Siskiyou county by fire last week. The flames were finally subdued by a heavy shower.

The injury to the sugar beet crop from the rains was not so great as anticipated. While it started some growth, the loss of sugar content is not perceptible.

The fruit growers' meeting which was to be held on the 20th at Penryn, Placer county, was postponed owing to the Portola Festival and will be held this week instead.

A Lodi grape grower in looking through the East has learned that Eastern commission men are using Lodi grapes to slaughter prices and war on their competitors.

The directors of the Butte County Citrus Association met recently and completed arrangements for the shipping of Butte County oranges. The season will be a little earlier than last year.

Representatives of the Cloverdale Citrus Fair Association are already visiting surrounding towns to create interest in the coming show. A new building is to be constructed for this year's exhibition.

Delta, Shasta county, recently endured a plague of hogs. They were shipped there to be driven to the acorn section for pasture, but before being driven out occupied nearly the whole town to the discomfort of residents.

## Central California

There are 342,000 acres of forest reserve in Monterey county.

The Modesto Turlock irrigation district covers 126,210 acres of fertile soil.

The prune market is improving very slowly and the outlook is not so discouraging as earlier.

Good Newtown pippins are now topping the market in London, two carloads having sold at $2.40.

The soil survey plans a survey of some of the lands of the San Joaquin Valley during the next few months.

Oranges are coloring well in the Tulare county citrus orchards, much of the fruit showing exceptional size.

An effort is being made to secure reservoir sites to insure water supply for the great Modesto-Turlock irrigation district.

A. Sustrich has grown a 30-pound sweet potato to which the Porterville Chamber of Commerce is proud to call attention.

A grape grower near Sanger, Fresno county, harvested over four tons of raisins from three acres of Muscat of Alexandra.

A land scheme has been launched in eastern Fresno county by which much foothill land will be brought under irrigation.

The red spider which has been discovered in Tulare county seedbeds is believed to have been introduced with seed shipped from Florida.

The prune market is looking better than for some time and two and three-quarters cents is usually required before the producer will let go.

The Monterey County Chamber of Commerce is promoting a movement to dispense with Japanese labor and endeavor to secure white labor to take their places.

Watsonville apple growers are talking up the holding of an apple carnival. Some think it too late for this season as the building of an exhibit hall is necessary.

It is reported that some of the raisin growers who had stock damaged by the recent rains have planned to mix good and bad raisins so as to dispose of the poor goods.

An effort is being made to establish a county experiment station in connection with the Bishop, Inyo county, High School. This high school has an agricultural science department under direction of Walter F. Sutherst, P.H.D., F.I.C.

R. L. Adams, connected with the sugar beet experiment station at Sprekels, reports that he has discovered the cause of beet blight to be Eutellix tenella, an insect an eighth of an inch in length and classified as a leaf hopper.

The statement in our news notes last week that Porterville has just received its first spraying outfit we are now informed is incorrect, the order for the outfit having been countermanded. Porterville is proud of the fact that spraying of orange trees is not necessary in that district.

## Southern California

Grain fields are already green in the Imperial Valley.

An effort is being made to establish a fuel alcohol factory in the Imperial Valley.

Great numbers of cattle are now being shipped into the Imperial Valley for pasturage.

Riverside Y.M.C.A. is repeating its last winter's course of lectures along horticultural lines.

The new cotton gin in the Imperial Valley started on October 19th. It was the occasion of a celebration.

The Fullerton-Pacentia orange district will ship the next season probably twenty-five per cent less than last year's output.

Lemon growers at Cucamonga, San Bernardino county, plan for a fine equipment in a lemon house now building.

The first full car of celery was shipped from Santa Ana through the California Vegetable Union on October 16th. Regular shipments will begin on November 1st.

Fruit growers in many sections of the southern part of the state are using their utmost endeavors to prevent the appointment of "political" horticultural commissioners.

The stand taken by the lima bean men has resulted in a very satisfactory strengthening of the market and an advance of five cents. The growers are now receiving $3.80.

Engineers are now at work running surveys for two pipe lines and locating reservoirs which will supply water to the rich section of the Yucaipe Valley in San Bernardino county.

One of the tricks which the lima bean growers maintain that the buyers have been responsible for was the shipping of dirty and damaged beans in the effort to depress the market.

At the second annual meeting of the Tustin Lemon Association the following officers were elected: C. E. Utt, president; B. H. Sharpless, vice-president; E. E. Wilson, secretary.

The Los Angeles Florists and Nurserymen's Association will hold a meeting on November 9th at which there will be a special discussion on varieties of eucalyptus adapted to California.

The examination held to determine as to qualifications of applicants for county horticultural commissioner, resulted in the passing of five names up to the board of supervisors of Los Angeles county.

The annual meeting of the stockholders of Orange Heights Fruit Exchange of Corona elected the following directors: R. D. Lamson, W. C. Barth, A. R. Whitmore, I. M. Moore, W. Sargent, L. A. Fink and F. F. Thompson. M. Morgan is retained as manager.

The directors and officers recently elected by the Queen Colony Fruit Exchange are as follows: W. H. Jameson, president; S. B. Hampton, vice-president; John P. Key, secretary and manager; First National bank, treasurer; A. F. Call, Frank Scoville and M. Morgan.

## The Coast

Oregon hops have been commanding in Portland 28 cents.

A great many Americans are again flocking to the Canadian homestead lands.

Toppenish, Washington, shipped 400 cars of hay during the month of August.

The heaviest yield of potatoes in years is reported from Spokane, Washington.

Six thousand seven hundred head of stock pass through the Union Stock yards at Portland weekly.

Over 100,000 sacks of grain were sold at Pendleton, Oregon, on one Saturday afternoon recently.

Fruit growers at Lakeview, Oregon, are losing much of their fruit because of lack of fruit jars.

5000 acres will be irrigated at Billings, Montana, from a reservoir supplied from a pumping station.

A magnificent display of apples was made at the county fair at Grant's Pass, Oregon, held last week.

A big power plant will be erected on the Snake River, Washington, and over 20,000 acres of land will be irrigated.

Two prune packing plants at Vancouver, Washington, are employing 300 hands in preparing the output for shipment.

Surveyors are segregating land under Crane Creek Ditch at Weiser, Idaho. This ditch will cover about 20,000 acres of land.

Seventy-five farmers of Spokane and surrounding counties in Washington have organized a co-operative trading organization.

The Colorado Agricultural College will install and display irrigation plants at the Corn Exposition in Omaha in December.

Farmers near Asotin, Washington, are not satisfied with grain prices and are storing over a million bushels, hoping for better returns.

One thousand Newtown pippins are being planted near Eugene, Oregon, as a test orchard, that variety not having been tried there before.

One apple grower at Colfax, Washington, will exhibit two carloads of apples at the National Apple Show to be held in Spokane Nov. 15th and 20th.

The Indian agent at the reservation at Fort Lapwei, Idaho, will purchase a number of Jersey cows and operate a model dairy to teach Indians civilized methods of farming.

The directors of the Agricultural College of Colorado have called for a convention of farmers to be held at the college the week beginning January 3rd. During the week a farmers short course in agriculture will be held.

A convention has been called by the Governor of the Hawaiian Islands at which efforts will be started to change the land laws in such a manner that aliens will be prevented from taking up homesteads. Other changes in the land laws are also considered.

# Can We Ship Chicks?

**Read** Sept. 4th, we shipped 505 Rhode Island Red Baby Chicks to B. F. Selby, Big Pine, Cal. These chicks traveled 72 hours, (think that over) and 500 of them arrived alive and strong.

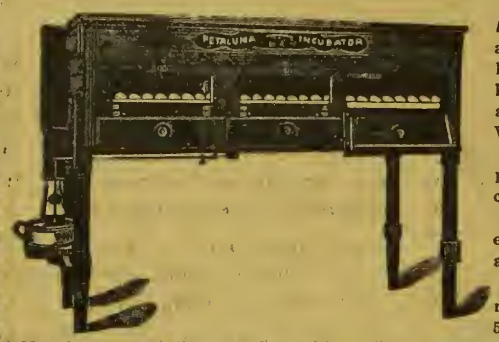
We know how to crate baby chicks to make them travel safe anywhere within 48 hours' travel. We have off large hatches every THURSDAY at present. Prices 10c and up. Send today for chick and egg catalog, it's free. Now is the time to get chicks.

## Pioneer Hatchery Company

*112 East Eighth Street, Los Angeles, California*

## Petaluma Incubators and Brooders

***Awarded GRAND PRIZE at Alaska-Yukon-Pacific Exposition, Seattle, Wash.; Two First Prizes and Silver Medal at the late California State Fair***




***Petaluma Poultrymen*** in accordance with their aim of attaining the highest degree of efficiency have steadily selected ***Petaluma Incubators*** and ***Brooders***—the Standard of the World.

We have equipped all the big poultry plants and have several contracts to complete before January 1st, 1910.

One firm of poultrymen has 47 504-egg Petaluma Incubators giving a capacity of 24,000 eggs at one time.

We also have contracts to equip a number of plants with from 10 to 20 504-egg ***Petaluma Incubators,*** besides dozens of poultry ranches with smaller numbers of machines.

***Winners of More Prizes Awarded by World's Fair Judges Than Any Other Make***

We have stated before and we ***again*** state that more Petaluma Incubators and Brooders are used than all other makes combined in Petaluma and all that great section of the country west of the Rocky Mountains, which is more than one-third of the entire United States, and the Petaluma is fast reaching a similar position among Eastern poultrymen. As rapidly as its merits become known does it supplant all other kinds.

## Midland Poultry Feed

Is the best ground mixed feed and hundreds of the successful chicken raisers use no other. Ask for it and take no other.

## Petaluma Incubator Company

**Petaluma, Cal.** **Indianapolis, Ind.**

Our General Agents for Incubators and Brooders and Midland Poultry Food:
**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**

# West Coast Egg Food

***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90, 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

## West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

## MRS. C. D. HUBBARD'S WHITE WYANDOTTES

Eggs for hatching September 1st '09. Write for circular.

BOX 80, ROUTE NO. 1 SAN FERNANDO CAL


# Profit in the Poultry Yard

We solicit short articles of a practical nature from the farmer and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

### SHORT POULTRY COURSE.

By Mrs. Frank Metcalf.

THE short course in poultry at the University Farm at Davis was fairly attended this year. Introductory remarks were made by Prof. Jaffa in his usual happy manner, and poultry keeping in all its branches was taught. Prof. Jaffa began with Principles of Feeding, then took up the Feeding of Fowls, Forced Moulting and Water Supply, Concentrated Poultry Foods, Condimental Poultry Foods, Pure Food Law and the Poultryman, all illustrated and explained in an instructive manner.

Mrs. Basley lectured on Housing, Selection of Breeds, Feeding Turkeys, Care of Fowls, and Moulting. Mrs. Metcalf gave the History of Standard Making in three papers, beginning with the first attempt in 1849, down to the present Standard, and daily lessons in Judging and Scoring, or Object Lessons in Applying the American Poultry Association rules in Cutting for Defects. The Sanitary Conduct of the Poultry Yard was ably handled by Prof. Chas. G. Hyde, and the Marketing of Poultry by W. E. Coleman, of San Luis Obispo. V. G. Huntley taught the English method of killing, plucking, trussing and boning fowls, a very instructive part of the course; H. A. George, Incubation and the Care of Brooder Chicks; W. B. Herms, Poultry Entomology; C. M. Haring, Poultry Diseases.

The class this year was somewhat smaller than it was last, owing to other attractions. The Poultry Department is in rather an unfinished condition, but when really settled down to business, will make a center of learning second to none, as the natural resources of the farm are practically limitless. Sufficient appropriations should be voted to carry on the teaching of this branch of agriculture, which out-weighs in value by far the wheat crop, the hay crop, and if accurate accounts were kept, any other crop in the world. $700,000,000 worth of chickens and eggs are said to have been raised in the United States during the past year, and at least half this sum has been earned by farmers' wives under the most adverse circumstances as regards buildings and modern conveniences. Not all farmers neglect the wants of their women kind where poultry helps are concerned, but many still think anything good enough for a chicken, never stopping to think that Biddy pays her way far better than even the high priced and carefully housed Jerseys and Berkshires they pride themselves about.—Mrs. Frank Metcalf.

### POULTRY QUERIES.

**Lice and Mites.**

Will you please give me the best formula for killing lice and mites.—Inquirer, Riverside.

Mites may be gotten rid of by spraying the hen houses thoroughly with distillate, inside and out, top, bottom and sides, using sufficient force to penetrate the wood between joints and fill each nail hole and crack, for these are the places where they breed. Now it takes gallons and gallons of distillate to go over the buildings, and the dose should be repeated in a week, cleaning out the nests and washing the roosts at the same time, saturating everything with the distillate both times. Unless a house is too badly infested, this will clean it, but if they have gotten a foothold between the shingles, a new house will be almost a necessity. I did clean one such by turning it upside down and soaking the roof while in this position, but that isn't always possible. Kerosene emulsion is much cheaper, and some find it effective. To make it, dissolve one pound of soap in a gallon of boiling water. When dissolved, remove from the fire and add one gallon of kerosene, churning or stirring violently until it emulsifies, when it will be like thick cream. Add one pint crude carbolic acid, stir again and add ten gallons of water and use as directed for distillate. If used thoroughly once a month, mites are kept in check, and the carbolic acid acts as a disinfectant.

For body lice, use road dust half peck, sulphur one pound, tobacco dust one pound. Put this into a large pan and dust the fowls just as though you were washing them, working the dust freely among the feathers. Look for feathers harboring eggs, (or nits) and burn all such. Then when well dusted, apply the following: Take one ounce of oil of sassafras, and add two ounces of sweet oil. Put into a machine oil can, and drop a few drops under each wing, in fluff around vent, and on head and neck. I think, if you follow these instructions you will be well rid of the pests.—Mrs. Metcalf.

**Bloody Eggs.**

What is the cause of eggs being bloody? I have found several that were in this condition. I have often heard people tell in a joking way of a hen laying two eggs a day, but I have a Plymouth Rock hen that laid two eggs between 7 A.M. and 6 P.M. I am not mistaken for it is a hen that has run by herself for a year and a half, and there was no chance for another hen to be near her coop. Hen is a cripple and this is the reason she is by herself.—E. S. H., Escondido.

I had a hen myself that laid two eggs in a day, so know there are such. Blood spots in eggs are caused by inflammation or congestion of the oviduct. This may be caused by several things, too much animal food, too much red pepper, or being greatly excited or frightened. To relieve, give a small dose of Epsom salts, say a teaspoonful in a quart of drinking water, and give nutritious, but not stimulating, food until cured.—Mrs. Metcalf.

### HOW SHE RAISES PEKIN DUCKS.

During the last 19 years we have been raising and marketing ducks, keeping several different breeds, but were long ago convinced that the Imperial Pekin is the market duck par excellence.

As a general purpose duck we like the Rouen, and for eggs alone the Indian Runner stands at the head of the list.

There are two varieties of Pekins, the small or medium-sized white

## Have You Tried Coulson's No. 3 Condition Powders for Poultry?

A first-class tonic and conditioner like ***Coulson's No. 3 Condition Powder*** is of great benefit to the chickens, especially when used at this time of year.

***Coulson's No. 3 Condition Powders*** will prevent diseases, by keeping the flock in a thoroughly healthy condition. By the same means it will keep them laying longer into the molt, and their healthy condition will enable them to molt quickly and commence laying at an early date. As it contains no injurious stimulant, it can be used with perfect safety at all times and for this reason is fed in large quantities by numerous poultrymen.

**It Contains No Cheap Filler**

In buying a bucket or sack, therefore, every pound is of value to the chickens, and will give you large returns for the money invested.

For sale by all dealers or at the factory.

**Coulson Poultry & Stock Food Co.**

**Petaluma, Cal.**

**Germain Seed Co., Los Angeles, Cal., Distributing Agents for So. California**

**Testimonial**

Petaluma, Cal., July 21, 1908.

Coulson Co., Petaluma, Cal.

Gentlemen—I consider your ***No. 3 Condition Powders*** an excellent tonic to put laying hens in good condition. H. A. GEORGE.



**"Let the Hen Do the Work"**

**Have You Used**

# KILLUM

**LICE POWDER**

Applied with Killum Automatic Poultry Sprinkler

**The Killum Company,** 214 Stockton Savings & Loan Building, Stockton, Cal.


duck, so often seen around farmyards, and the large kind, known as the Imperial Pekin, the latter being only a little smaller than the common goose and having a beautiful cream-colored plumage. This is the variety of Pekins kept by the larger breeders in the East.

A common mistake, especially among farmers, is that ducks and chickens are fed and housed together, the result being a lot of half-starved specimens with bodies outstripped in growth by beak and feet.

A Pekin duckling will eat at one meal as much as three or four chicks of the same age and gain in weight in proportion, but the food must be of a somewhat different nature from that required by chicks.

For instance, dry feeds, such as wheat, cracked corn, etc., are unsuitable for ducklings, though they make excellent feed for growing chicks. In order to ascertain the difference in growth, a pair of Pekin ducklings and a pair of White Wyandotte chickens were weighed when 14 weeks old.

Ducks and chickens were hatched the same day; both were well fed, but neither was forced. The two chickens weighed four pounds and four ounces, while the two ducklings tipped the scales at 14 pounds.

We use both hens and incubators for hatching, those hatched under hens being kept for breeding stock. While small our ducklings are kept in a large yard, fenced with poultry netting. Twenty-five is the usual number for each yard and ducklings of different sizes are never yarded together.

Each yard is furnished with a separate house for the ducklings to sleep in at night. These houses are cleaned every day and fresh litter put in for bedding. For the first week we feed light bread (at least two days old), crackers, cornbread, cooked rice and rolled oats.

The bread is crumbled and either fed dry or moistened with sweet milk. We never confine our ducklings to any one kind of feed, because a variety gives much better results.

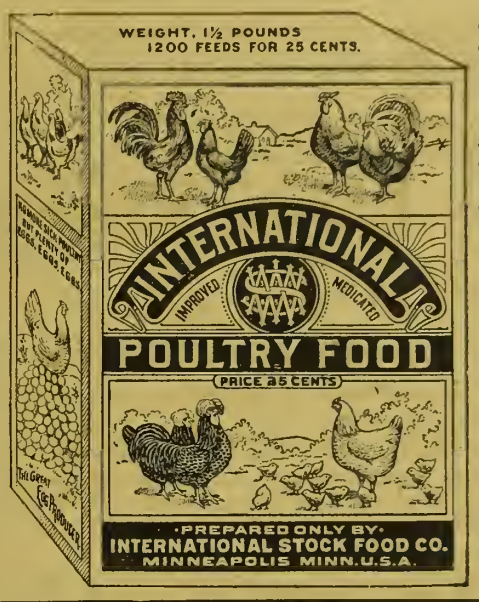
Green food is essential at all times for this purpose we grow large quantities of lettuce, onions and dandelion. These are chopped and fed, in addition to the grain food, several times a day while the ducks are small.

They relish these greens, no matter how plentiful grass may be; and when mixed with other food the greens furnish bulk, which is an important point in duck feeding.

A great quantity of food is required, but it must not be too highly concentrated. For this reason wheat bran is a prime factor in the feeding of ducks.

We feed our young ducks all they will eat five times a day, the hours for feeding being at 4 and 8 o'clock A. M., 12 M. and 4 and 8 o'clock P. M.—Anna Galligher in American Farm World.


## International Poultry Food




The wonderful egg producer. The great production of eggs has given the "International Poultry Food" a wonderful reputation throughout every state. We guarantee that it cannot be fed to hens at any time, winter or summer, without showing a large increase in eggs. You do not have to use the food at an extra expense, because it will make you more money after deducting its cost. One extra egg per month will pay the entire cost of feeding it and often more than double the supply. It contains no poisonous or injurious ingredients and has very superior merits.

Put up in 25c, 50c and $1.00 size packages, and 25-lb. pails $3.50.

**Only Costs 8 Cents a Month to Feed It to 12 Fowls.**

**GERMAIN SEED and PLANT CO.**
326-330 South Main St. Los Angeles, Cal.



## "Success" Fireless Brooders

Will raise every chick, send today for free circular; tells all about this wonderful brooder.

**No Lamp, No Smoke, No Odor, No Danger of Fire**

I pay freight. I sell on trial, if not satisfied I will refund you every cent. Order now. I can ship the day I get your order.

**E. E. McClanahan**
**112 E. 8th, Los Angeles**

**50 Chick $3.00**
**150 Chick $5.00**

**We Pay Freight**

## STANDARD EGG FOOD

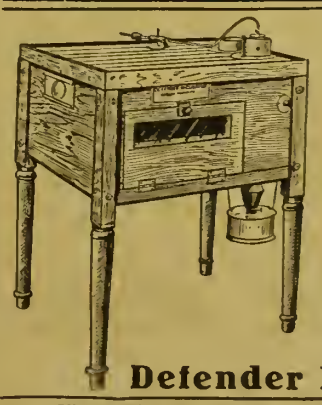
The kind that makes hens lay when other foods fail.

**90 Lb. Sack $2.35**

**Acme Roup Cure is Guaranteed. 50c Postpaid.**

**HENRY ALBERS CO., 845** S. Spring St. Los Angeles





## Defender Incubators

Are the machines that will hatch chickens that live and grow. Defender is the only incubator in which the principles that underlie the hatching of chicks from a practical standpoint is correct. WE GUARANTEE THE DEFENDER TO HATCH A LARGER PERCENTAGE OF FERTILE EGGS, chicks full of vim and vigor and bound to live and bring a profit that tells. Remember, Defender Incubators have the most successful pipe heating system ever put in an incubator. The case is made of redwood. Nothing but high grade materials used in the Defender. Has many improvements not found in any other incubator. The regulating flue can be removed and soot cleaned from the inside of boiler; no accumulation of soot to cause smoke and death dealing fumes. Simple and economical in operation. SOLD ON 30 or 60 DAYS' FREE TRIAL. Why Defender is superior to all others explained in free catalog. Be sure to have your name on our mailing list and get our free poultry lectures; we begin mailing January 1st.

**Defender Incubator Co.** Dept. D, Livermore California



SULLIVANS' "Commonwealth Strain" **Buff Orpingtons**

We win more prizes on Pacific Coast at leading shows than ALL COMPETITORS COMBINED. This season: 40 regular prize ribbons, 15 SPECIAL ribbons and 9 SILVER CUPS. Free catalogue. Stock and eggs for sale. Eggs $2.00 and up. Stock $2.50 and up.

**Mr. & Mrs. W. S. Sullivan**
**GARDEN VALLEY POULTRY YARDS**
5 minutes from depot. **Agnew, Cal.**
State V. P. Nat. S. C. B O. Club for Cal.



**COULSON'S POULTRY FOODS**
MADE IN PETALUMA
GUARANTEED
SOLD EVERYWHERE

**White Leghorns**

*A Standard Strain of Great Layers and Great Winners*

None Superior. Prices Reasonable. Booklet descriptive of our stock and farm, containing recipe for mixing the best and cheapest egg-producing mash, sent free. Eggs, stock and baby chicks for sale. Also a grand lot of cockerels.

**Model Poultry Farm**

*Irvington, Alameda County, California*

**WARD'S ORIGINAL FIRELESS BROODERS**

PRODUCES STRONGER, HEALTHIER CHICKS THAN ANY HEATED BROODER

FULLY GUARANTEED

NO LAMPS. NO OIL BILL. NO DANGER OF FIRE

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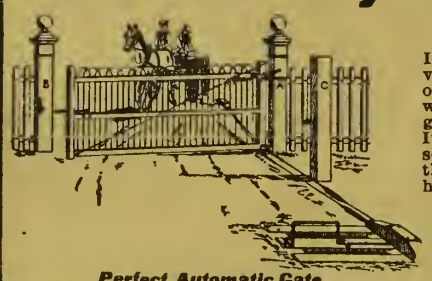

Perfect Automatic Gate

In general use for motor as well as horse drawn vehicles. Opened or closed without assistance or stopping. The gate can be placed at any driveway entrance. The machinery is all above ground, and so simple it never gets out of order. It will last a lifetime, and usually pays for itself, in time saved, within a year. It adds to the beauty, value, convenience and safety of any home. Address

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**Petaluma, California**

**WOOD PIPE**

Made from California Redwood or Selected Washington Douglas Yellow Fir

**National Wood Pipe Co.**

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Prices, specifications, hydraulic data and general information furnished upon request.

**GEESE**

*Toulouse* *Embden*

Prize winning stock never beaten at any poultry show.

*$1.50 Per Setting*

Fine Toulouse Ganders for sale at $4.00 each.

Send your order at once for the best stock in the west.

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**CROLEY'S**

**High Protein Meat Scrap**

Just what the name implies.

**A Meat Scrap High in Protein**

Not tanned nor embalmed and thoroughly digestible.

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Poultry Supplies

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Obtain it from your dealer, or order direct.

**Trees Eucalyptus Trees**

For fall and early spring planting. Our interior valley climatic conditions make hardy plants. Best to ship. Best to plant. Our trees grow. Prices right.

**The Southard Nurseries**

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One Year $75. Send for Circular.

Employment possibilities very strong in Sacramento.

**John Lynch** Breeder of Registered **Shorthorns**

MILK STRAIN

Box 321 Petaluma, Cal

**The Whiting Jersey Stock Farm Co.**

Is making the very best strains of blood fresh from the island of Jersey a specialty. **Whiting Jersey Stock Farm Co., Heber, Cal.**


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CULTIVATOR PUB. CO.

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Gentlemen—Enclosed find $1.00 (Canadian and Foreign, $1.50) for which please send the ***Cultivator*** to the following address from date to January 1, 1911.

NAME P. O. ADDRESS

Signed _____

Address _____

## Fresno County Fair

WITH the closing of the Fresno County Fair Saturday night last, ended the second big county fair of Central California, and again was demonstrated the fact that an empire of wealth was rapidly coming to its own. Monday was opening day; Wednesday, Fresno day; Thursday, Kings County day; Friday, Tulare day; and Saturday, Selma, Kingsburg, and Fowler day—and every day was the big fair day.

In the livestock department were shown Mrs. Glide's shorthorned cattle exhibited at the Seattle Exposition, and among other entries were the Dutch belted herd owned by U. G. Strader of Ceres, J. E. Dickinson's herd of shorthorns, the Jersey herd of Geo. A. Smith of Corcoran, and Hereford and Angus herds owned by the Robla Lomas Cattle Co. of Visalia. C. J. Gilbert of Fresno had a combination herd of shorthorns and Jerseys. A fine exhibit of saddle horses, roadsters in harness, grade farm horses, German coach horses, and standard horses was shown. In the limits of this short article it is impossible to even mention the various exhibts, but conservative judges claimed the individual classes more extensive than and superior to those exhibited in any other fair on the coast this fall.

In the poultry department probably four hundred birds were shown, and in spite of the moulting season, the exhibits were fine and many excellent prize winners were shown.

In swine the exhibits were few, much to the regret of the many hog raisers, Berkshires and Poland Chinas only being in the prize winning class.

In the pavilion many fine displays were made, embracing the entire agricultural and fruit interests of this rich and wonderful county. The leading feature was the exhibit of the many varieties of grapes grown in an experimental way by the Federal Department of Agriculture, under the supervision of Prof. Georges Hussman, and now forming a part of the collection exhibited by the Fresno Chamber of Commerce. With few exceptions, these were all vinifera, and they are classed variously as "direct producers," wine, brandy, raisin, table and shipping grapes. There were a large number of booths for commercial displays, including the Swiss-Italian Colony Co., Fancher Creek Nursery Co., S. W. Marshall Nursery Co.; Holland & Holland, M. R. Madary, California Dried Fruit Co., J. M. Crawford & Co., Miss Kate Parsons with a floral booth, and George H. Croley with an exhibit of poultry supplies. Nectarines were exhibited by the Phoenix Packing Company, peaches from Guggenheim and the J. N. Armsby company, apricots from A. L. Hobbs company, an assortment of dried figs by W. F. Toomey and F. J. Hammond, canned figs by the Roeding Fig Packing Company, olive oil by the Roeding Olive Oil Company, and a fine display of canned fruit by the Griffin-Skelley Company.

The display of crude and refined oil from the Coalinga oil fields, in this exhibit, was varied and interesting, one section by the Fresno Chamber of Commerce, and the other by the Standard Oil Company. The chamber's collection took first prize at the late State fair at Sacramento.

The attendance should have been larger from the rich sections of country surrounding Fresno, especially from the fact that the total amount of cash premiums offered was nearly $10,000, and in addition a speed ring amount of $2000. However the management are to be congratulated upon a successful fair, and the county upon the live and progressive people who made the showing possible.


Contrast a dried out, weather-worn strap from a harness ignorant of oil, with the soft, glove-like springy quality of leather oiled with

**EUREKA Harness Oil**

Think how much better the leather looks; how much *easier it is for the horse;* and how much longer it will wear. Nothing like "Eureka" Oil to make a harness soft and black Ask your dealer.

STANDARD OIL COMPANY (Incorporated)

**Power Sprayer**

**For $85.00**

**Complete as Illustrated, Without Hose or Nozzles**

Most complete low priced power sprayer on the market.
Bronze plunger, gland and valves.
Large air chamber.
Positive agitator.
Relief valve and pressure gauge.
Air cooled gasoline engine.
Uses only one pint of gasoline every three hours.
100 lbs. pressure with six mistry nozzles.

**FREE** How to spray, when to spray, what sprayers to use.

**Smith-Booth-Usher Co**

**Machinery and Supplies**

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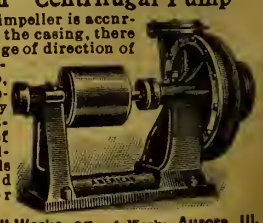
**More Water** Than is delivered by any other style of pump and 25 to 33⅓% more water than is raised by any other pump of the same type is produced by the

**"American" Centrifugal Pump**

It's because the impeller is accurately machined to the casing, there is no sudden change of direction of the water in passing thru the pump, and the entire mechanical efficiency contribntes directly to the raising of water. "American" Centrifugals are guaranteed rigidly. Ask for our new catalog.



The American Well Works, Office & Works, Aurora, Ill.
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**WINSLOW'S REDS**

As winter layers cannot be surpassed. For quality have no superiors. Stock for sale at all times. Winter rates, eggs—$2 per 15. Write for Winter Mating List.

DR. CHAS. E. WINSLOW
Proprietor
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Send stamp for Rhode Island Red Club Standard.

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## Forestry

### DRAINAGE OF IRRIGATED LANDS.

BULLETIN 217 of the Office of Experiment Stations gives an account of experiments in drainage of irrigated lands in the San Joaquin Valley. The book is written by Samuel Fortier and Victor N. Cone.

The subject of this bulletin vitally concerns many irrigated lands of the West, especially those of certain parts of the San Joaquin Valley which have been ruined by ground water from irrigation canals in sections where the land is of such a nature as to convey the water long distances. In a letter of transmittal to the Secretary, Mr. A. C. True, Director of the Experiment Station Service, says:

"In almost every irrigated section large areas of the lower lands have been ruined by the rise of the ground water and an accumulation of alkali, and the usual course has been to abandon the injured lands and transfer the water used on them to other lands. Often this means the abandoning of costly improvements, the building of new ditches and new structures, and the planting of new fruit trees and vines. These experiments show that drainage, which will hold the ground water below the roots of trees and vines, will prevent the injury of orchards and vineyards, and will quickly restore lands already inpured at a cost much below that of reclaiming new lands and providing new equipment. While the experiments were confined to one region, the methods employed and the results obtained will apply to other sections having similar conditions. It is therefore recommended that this material be published as a bulletin of this Office."

The bulletin has 58 pages of instructive matter and several charts and illustrations. It may be secured by addressing Irrigation Investigations, Berkeley, Cal.

### IDAHO FORESTRY ASSOCIATION.

Northern Idaho Forestry Association, composed of lumbermen of Washington, Idaho, Minnesota, Wisconsin, Iowa and Nebraska, owning hundreds of thousands of acres of virgin forest lands in the pan-handle of Idaho, will urge the forestry department, headed by Gifford Pinchot, to co-operate with it in the protection of the standing timber, including several hundred thousand acres in the national forest reserve, declared to be the largest stand of white pine left intact on the continent. The association expended more than $100,000 this year in building trails, maintaining stations and patrols and fighting forest fires.

It is purposed to build a series of twenty dams at the headwaters of the Coeur d'Alene, St. Maries and St. Joe rivers and their tributaries to create enormous reservoirs to store the snow water from the mountains for release during the dry season. This will provide a means to fight fires, insuring also a steady flow in the streams for logging, irrigating and mining purposes and checking the floods during the spring freshets, thus eliminating the danger of the destruction of millions of dollars' worth of property by the ravages of swollen mountain streams.

A. L. Flewelling of Spokane, chairman of the committee on conservation, will leave for Washington, D. C., early next year to discuss the matter with Mr. Pinchot and endeavor to enlist federal aid.—Irrigation Age.

### FORESTRY NOTES.

Most farms have on them small or large areas that can be utilized for forestry better than for anything else.

A good forest gets its light and air at the top and not at the sides. Consequently its relative leaf area is small and growth is slow.

In the making of timber, the bole of the tree is the principal thing. It is desirable to have it grow straight and tall, and the tuft of branches at the top is the means of elaborating the food that goes down and enlarges the bole.


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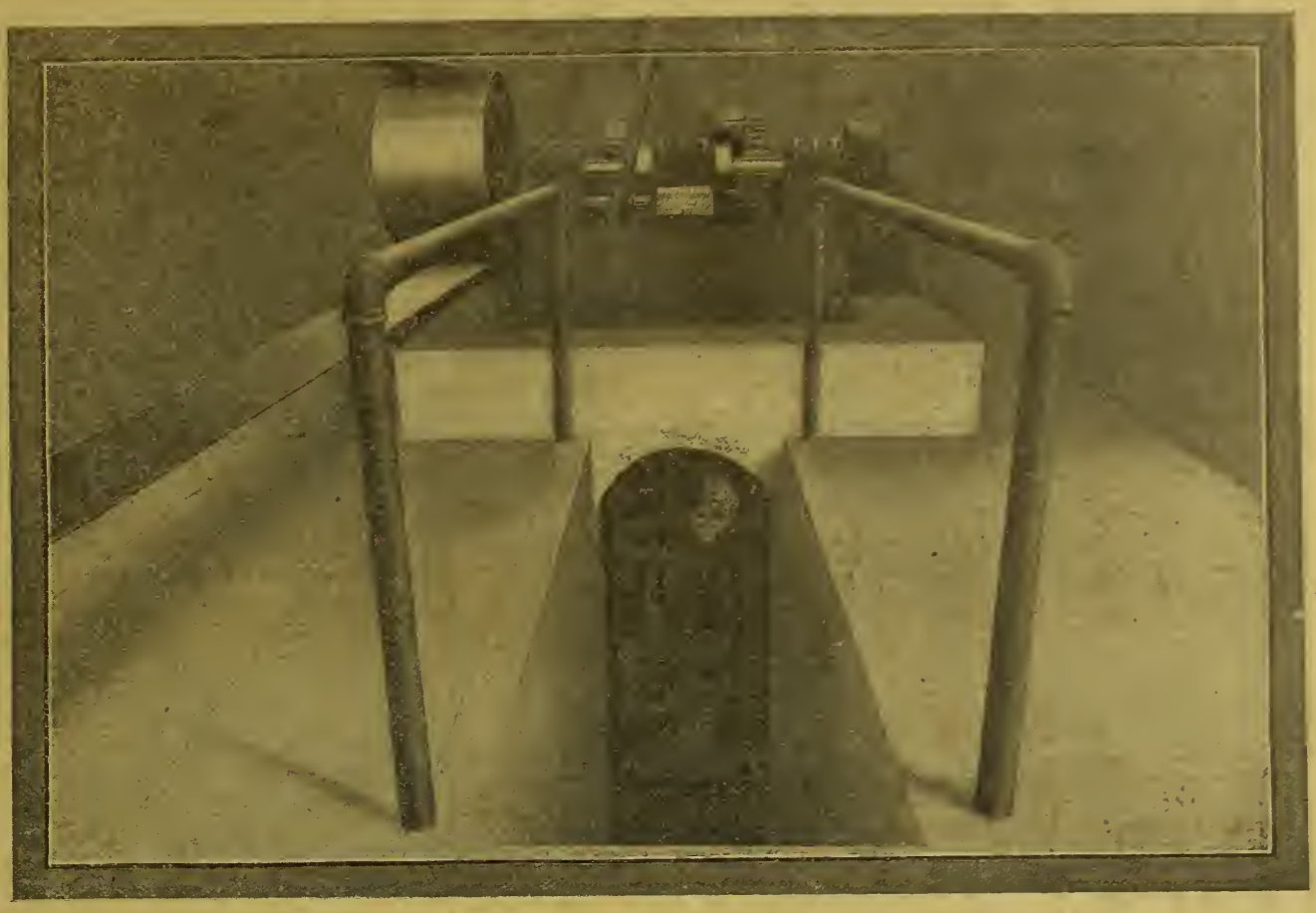

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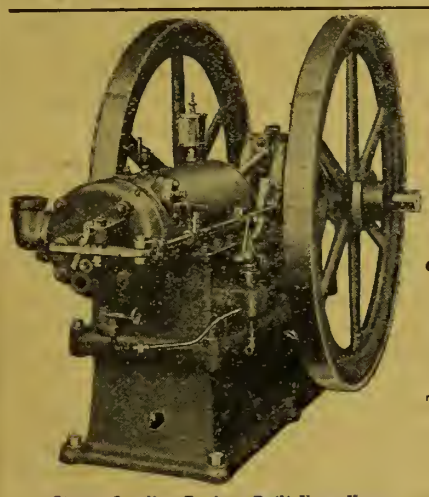

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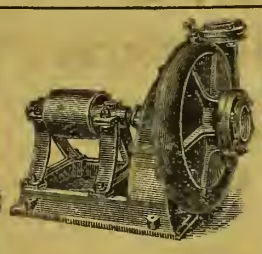

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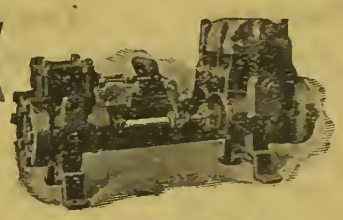

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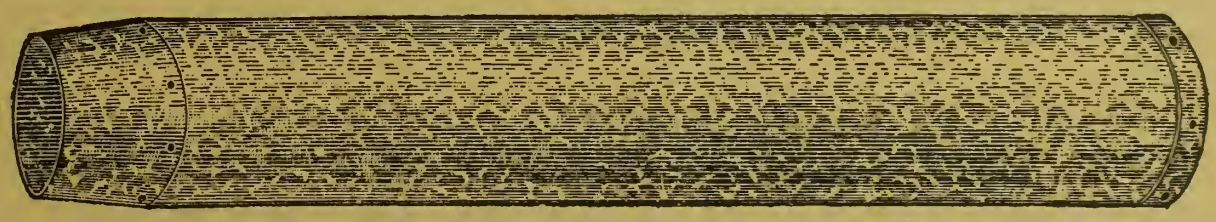

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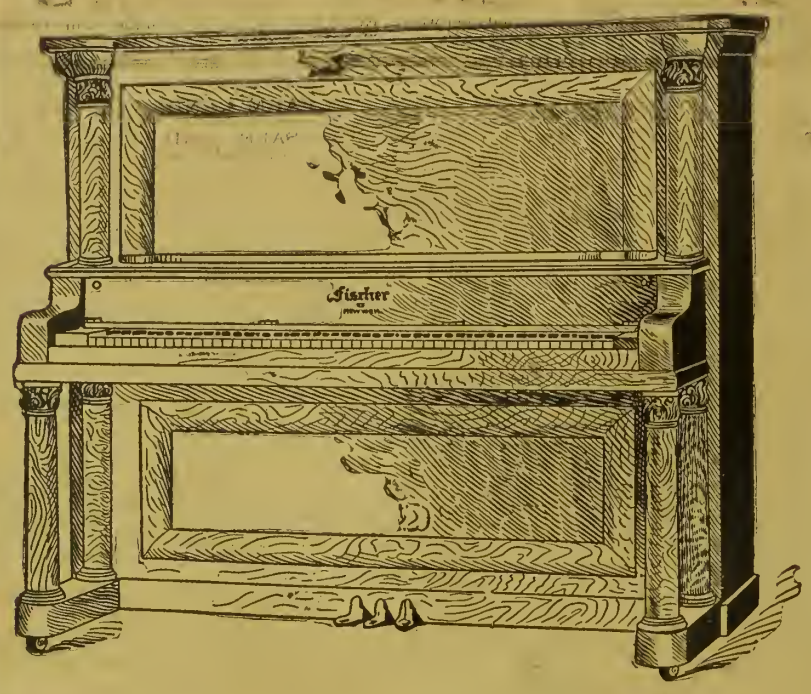


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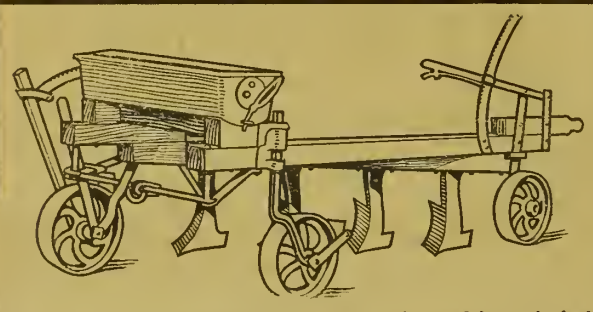

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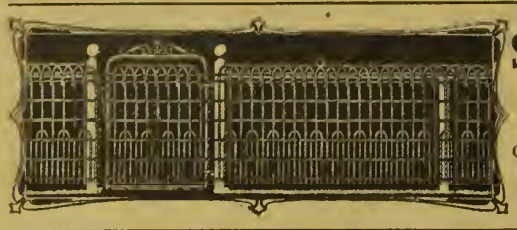

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# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Lippia Repens.

Where may I secure lippia repens? How is it sown? Will it smother out bermuda grass? Also what is the best way to kill bermuda?—Subscriber, Kerman.

Lippia may be secured of almost any nurseryman or seedman, and in many sections in the state is growing wild and can be spaded up along the roadsides. It is not reproduced from seed, but from runners, or rather from sod, which is grown in flats when produced commercially. The sod is cut up into sections, perhaps one and a half or two inches square, and these are set out where wanted for lawn, ten or twelve inches apart. It will spend the winter in getting rooted, perhaps spreading somewhat, but in the spring as soon as the warm weather comes, it will cover the entire plant. Then from this, little sections may be spaded off and transferred to other plats if desired. It is one of the simplest plants to grow and will stand a wonderful amount of abuse. We cannot say positively that it will replace the bermuda entirely, but think it will, that is, if it is given a fair start. If planted in a field where bermuda is already thick, it is probable that it could not make a thrifty growth.

The best way to subdue bermuda is by thorough culture. If it is in lawn and has secured a firm foothold, one must either let it answer for the lawn or give it up to clean culture to some crop until the bermuda is killed out, or else take up the sod deep enough to remove all roots and replace with fresh soil which is free from bermuda. If thoroughly cultivated out and lippia planted, we believe the bermuda will not again be troublesome.

### Alfalfa in Orchard.

Do you think it advisable to sow alfalfa in young peach orchard? Will it injure trees or soil to check up this land and sow alfalfa, irrigating it about once a month?—J. T. M., Kerman.

Experiments made by the New York and other experiment stations have proved conclusively that the clean cultivated peach orchards have given about fifty per cent more profit than the orchards in which sod was allowed to remain. This profit was net, over and above the extra cost of cultivation. The peach requires a warm soil and plenty of air admitted to the roots. Where these conditions are prevented by sod or alfalfa which is irrigated once a month, we do not think the best results can be obtained. However, it is possible that with young orchards just planted a strip through the center might be of no great injury, but it should be plowed up before the trees reach bearing age, if best results are expected.

### Curl Leaf.

Can you give me a cure for curl leaf in peach trees?—Subscriber, San Luis Obispo.

The remedy is either the sulphur and lime wash or Bordeaux mixture applied before trees leaf out in the spring. Once the leaves show the curl, there is no remedy. The spores of this disease are scattered over the bark and attach themselves to the leaves and begin growing. The winter spraying prevents this.

### Asparagus.

How is asparagus cultivated to yield a good profit?—Subscriber, San Luis Obispo.

To give complete instructions for asparagus culture would exceed the limits of this department. By referring to the issues of March 18th and 25th and April 22nd of this vear, you will find articles which will give you pointers.

### Grapefruit.

We recently had inquiry as to value of Marsh Seedless pomelo for arid interior valleys. The question was referred to Mr. Alfred P. Griffith at Azusa, and he writes:

It is my experience that Marsh Seedless has not proved as heavy a bearer as the Nectar nor does the fruit size up as well or as early. I have had no experience with other varieties except Triumph which does not size up in this locality. My experience is in light soil.

### Rose Rust.

I enclose leaves from several of my rose bushes. They come out looking nice and thrifty, then turn yellow or spotted or curl up and drop off. Please tell me what to do for them —Subscriber, National City.

These were sent to C. O. Smith, Assistant Plant Pathologist of the Southern California Station at Whittier. He writes: "I find the leaves have what is known as 'rose rust.' This is a fungus that in external appearance resembles the rust of the blackberry. No successful treatment of the trouble is known. The disease although common does not appear to do very great injury."

### Silos—Book on Swine.

Is the silo in successful operation in Southern California, and if so by whom? I would like to go and see the parties and get full information. What is the best book, in your opinion, in regard to the care of swine?—G. G. F., Tipton.

There are scores of silos around Los Angeles and if you care to go into the office of the Cultivator they will tell you where there are many of them. If you care to come out here to the Minnewawa we will show you our silo now filled for winter feeding. As soon as the first frosts cut down the sorghum we will begin to feed it out. Are you interested in cattle for dairying? We are making a forced sale of young males 27 to 5 months old and have some extra good ones at bargain prices for the next two months. I use Fulton's Home Pork Making and find it is sufficient for my purposes. Coburn's Swine in America is considered one of the best authorities.—M. E. S.

### Holstein or Jersey?

I am making a start in the dairy business. Which do you consider the better breed of cattle, Holstein or Jersey for the purpose mentioned?—C. C. P., Santa Clara.

There are good cattle in every breed and poor ones as well. I am a Holstein breeder, but have always liked

the Jersey cows very much. I really have no feeling in the matter and should debate some time if I were beginning which of the four breeds to choose, Jersey, Guernsey, Ayrshire, or Holsteins. The Ayrshires and Holsteins are not so expensive to start a herd as the other two breeds. The Ayrshires are not yet as much developed in California as in other places. The Holsteins are probably more plentiful than any other pure bred cattle in the State at present time.—M. E. S.

### Best Olive to Plant.

Can you advise me what variety of olive to put out from a purely commercial standpoint? My soil is a red clay loam.—C. F. C., Orangehurst.

The only olive that has been proven in California is the Large Mission variety. The others we are hoping may be good. The Manzanillo is hopeful, yet this season some are showing rot at the heart. The Queen olive or Sevillana has this fault and for that reason is pickled green.

The olive requires heavy soil with moisture to make its best growth and to produce heavy crops. They become profitable after five years when on good soil and well cared for as other trees and vines. While the olive will live on poor land and will make an effort to fruit when it reaches the age of ten or more years, this is distinctly not a profitable way to grow them. Treat an olive tree with the same care that you give a peach tree and it will give double the returns of the peach tree and its life is many more years.—M. E. S.

### Dairy Questions.

When is the best time to breed young heifer to make a good milker of her? Will time of breeding affect sex of calf? A cow lately bought, said to be a five gallon cow, gives but one gallon, and from one quarter of her udder, but a teacupful of milk. What can we do to increase flow? We feed best loose alfalfa and about 1½ quarts bran mixed with one tablespoon of oil-cake meal morning and night, at noon oat hay. Will feed pumpkins later. Should we feed with seeds or without?—J. R. F.

Breeding her at fifteen months old would be the preferred age, yet I would waive a month either way to bring her in in the summer, August or early fall months as September, October. A heifer calving at that time is worth more as a cow because she will milk continuously for the year.

There are no understood laws in regard to sex producing. Sometime we may understand this matter, but not now. The Texas cattle men did not like bulls kept up and fed during the winter and then turned out fat with thin, weak cows, as it seemed to give an undue number of "she stock" in the calves. That the balance of Nature will be thrown to the weaker side seems to be a preservative measure, but it is not found to work out in the dairy herd.

The older cow has probably an udder that has inflamed at calving time and little can be done now to bring back the milk flow. The next time she freshens watch that she is milked out clean and that the udder does not become inflamed badly.

The feed is all one sided on the protein. I should prefer to give corn or rolled barley for most of the bran and cut out the oilcake altogether when feeding alfalfa hay freely. Make all changes slowly in cow feeds as they are easily disturbed in their digestions. Give them all the pumpkins they will eat up clean, the seeds do not matter at all.—M. E. S.


# Money Making Little Liners

In this department we will insert your advertisement under a classified head for 1½ cents per word. No ad accepted for less than 25c. Our classified columns are the clearing house for our many thousand readers.

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FOR SALE AND EXCHANGE—160 acres of choice level land in the San Joaquin Valley, free from alkali, hardpan or washes. Must have some money quick. $500.00 cash, $500.00 in a mortgage for 2 years at 7 per cent and $600.00 in trade. Can use horses, mules or farm implements to advantage. J. E. FARNHAM, Hollywood, Cal.

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## TREES.

FOR SALE—1500 EUREKA LEMONS, 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. B. WARNER, Santa Ana, Cal.

FOR SALE — STRONG OUTDOOR grown rooted cuttings. Send for 1-2-3 cent list. Other plants. Fine lot Blue Gums qt. tins—3 to 4 ft. GEM NURSERY, Los Gatos, Cal.

WRITE TO US FOR SPECIAL PRICES on first-class prune or peach trees, or berry vines. State number wanted. GRIDLEY COLONY NURSERY. Gridley, Cal.

## TREES WANTED.

FOR EXCHANGE—1000 PHOENIX Canariensis Palms, 1000 California Peppers, and 100 Black Acacias, 2 years old, in 4-inch pots. Want peaches, apricots, plums or apple trees, No. 1 stock. Address, H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

WANTED TREES—A FEW THOUsand apricots, peaches, pears, etc. IMPERIAL VALLEY NURSERY. Imperial, Cal.


## CABBAGE BEETLE.

The cabbage beetle is a difficult insect to combat, but those who are raising young plants often find considerable help by dusting the young plants very thoroughly with air-slacked lime or coal ashes. This is quite commonly done by putting the substance to be dusted over the plants in a cheesecloth bag and shaking it over the rows. Fleabeetles commonly dislike to eat plants that are covered with dust or any substance which is not palatable and will oftentimes seek other food plants rather than eat those which have been so treated. To make the remedy effective it should be very thorough, so that the plants are well covered with the dust, and if the remedy is washed off by rain or for other reasons, the plant becomes exposed to the beetles again, they should be re-treated.

"See the shadow the book throws across my waist? It's like the shadow caused by the metal burner or tank of your light—with this difference, I can take away the book and get direct, shadowless light. See the point?"

MORE LIGHT

—where more light is needed—that's what The Angle Lamp gives. It is oil lighting at its best with the smoke, odor and bother eliminated by new methods. It throws upon book or table a direct shadowless light delightful to read or work by.

THE ANGLE LAMP

resembles a handsome gas chandelier in its appearance and in its convenience. It is lighted and extinguished like gas. May be turned up full or turned low without odor. Safely filled while burning. Requires filling once or twice a week. Floods every corner of the room with a splendid light. Costs about 3 cents per week. Made in 32 varieties, a style to suit every need and taste. Call or write for catalog.

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Which Accounts may be checked against without presentation of Pass Book. Interest is paid monthly on the minimum monthly balances.

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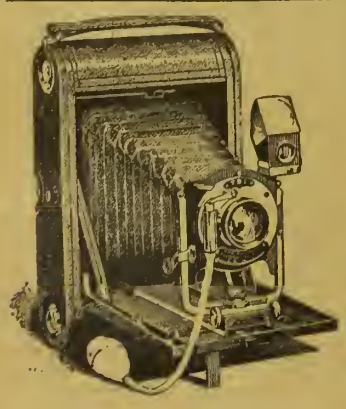

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Developing, Printing
Enlarging, Supplies.

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226 W. 4th, Los Angeles, Cal.

Mail Orders Solicited


# Household Department

## 'TWIXT THE ROWS.

Times I straighten up an' llsten,
Seems a small volce in my ear
Callin', "Father, here's me comin'!"
Like a sweet bell, ringin' clear.
Sunbonnet a-flappin',
Bare, brown toes,
Little Jane comes steppin'
'Twixt the rows.

Clouds all swallered up in sunshine,
Birds a-burstin' into song.
'Here's me comin'! Here's me comin'!'
Callin' all the way along.
Little basket swlngin',
Up an' down it goes,
As little Jane comes singin'
'Twixt the rows.

Clear up yonder I see mother,
Checkered apern wavin' high.
"Father, what you s'pose I've brung you?"
Little voice a-pipin' nigh.
Muscles all a-throbbin',
But hoein's easy, so's
Little Jane come bobbln'
'Twixt the rows.

Then I rouse up from my dreamin',
Kind o' chill seems ln the alr,
Look with both my old eyes peerin',
Lttle laughin' thing ain't there.
Forty years I've been a-skippin',
Years o' suns an' snows,
Since little Jane came steppin'
'Twixt the rows.

—Annie Hamilton Donnell.

## DECORATIONS FOR HALLOWE'EN.

THE first thought of the prospective Hallowe'en entertainer ls naturally appropriate decorations, and these must be not only attractive, but "spooky." Where one is lucky enough to be in reach of autumn leaves, a charming effect can be secured by using them lavishly. Cover the walls with branches and strew the leaves on the floor and hang tbe room with square jack o' lanterns made of black cardboard. Lacking these, twisted strips of crepe paper in alternating colors, red, yellow, orange and black, may be carried from the center of the room to the walls where the strips are caught with a back cat's head, owl's head or spider cut out of cardboard. Let the ends of the strips hang down nearly to the floor. A room all in red or yellow could also be made very striking, but you will find that a touch of black here and there will greatly add to the effectiveness. Yellow pumpkins are of course the most effective decoration possible. Pumpkins big and pumpkins little cut out to form jack o' lanterns can be used for the entire lighting of the rooms.

A big pumpkin hollowed out, filled with balls of popcorn, can be used for a centerpiece on the table. Frills of red and black or yellow and black crepe paper placed under the pumpkin help to carry out the scheme. Small jack o' lanterns of hollowed out red or yellow apples or oranges can be used in addition.

At a table where witches are supposed to hold frolic, the decorations should emphatically declare the fact. In the center erect a substantial tripod and from it suspend the fateful caldron, which, on this occasion, might contain nothing more harmful than some fresh, sweet cider to which, later on, the guests would be served by means of a long-handled tin dipper provided for the purpose. A fine vegetable fire can be made under the kettle by piled up red chile papers and small carrots on a few sticks of wood, or jagged toothed yellow and red cardboard can be used to simulate the blaze.

One can find at the stores many grotesquely fascinating masks and creations of all kinds in papier macne, black cats, witches, screech owls, spiders, and spooky things of all descriptions, but the home made decorations of pumpkins, apples and leaves seem more in keeping wtih the splrit of a homely frolic such as Hallowe'en, and think of the fun of making them! —R.

## HALLOWE'EN CUSTOMS.

With the gathering in of the pumpkin, squash and corn, and with the crisp, cold weather of October do we associate Hallowe'en. It ls strange how many have forgotten the myth of Hallowe'en and it is even stranger how many never knew it.

In early times the Druid priests had special services in the oak forests for Hallowe'en. It is supposed to be a time when supernatural forces hold sway in the realms of humanity. In England and Scotland we find Hallowe'en celebrated with its true meaning. Tbe story of these strange forces ruling everywhere on thls particular night is banded down from generatlon to generation. Scott and Burns have written at length on the ghosts and witches of Hallowe'en. Burns gives us such a weird picture in Tam O'-Shanter that we hardly know whether or not we have had a strange dream. We can scarcely realize that we have read a poem upon which a great man has spent time and energy. In America Hallowe'en is regarded as a time to be spent in fun and merrymaking. Many open their homes for parties on this night. Everything is made to appear weird and ghostlike. The house is often lighted merely by the fire ln the fireplace or perhaps by Jack-o'-lanterns. Fortunes are told and ghost stories of tbe most weird nature are appropriate. Popping corn, roastlng nuts and marshmallows and ducking for apples are quite common amusements.

The formality that exists at parties is not evident here. Anything approaching form or ceremony ls out of place. The guests are often requested to sit on the floor. Candy, apples and fruit are usually served for refreshments. In many places the indoor amusements have given place to outdoor sports. The corn roast and the husking bee are appropriate. Oftentimes amusements of a very different nature are indulged in. Crowds go about surprising people by ringing door bells, rapping at tbe windows, etc. Again many times movable property is carried away and sometimes, to the disgrace of the offenders, destroyed. Destruction of property should always be avoided, as should every other practice which is likely to offend.—Farmer's Tribune.

## HALLOWE'EN AMUSEMENTS.

The season of parties opens with October's first appearance. Comparatively few towns where there are lively young people have not enjoyed the jolly corn roast on some night in early October. Then with October's last days the time is merrily spent in contemplating Hallowe'en. The last quarter of a century has in a measure spoiled the true meaning of the Hallowe'en feast and frolics. Too many of our younger generation think of it only as an evening for malicious intents. Parents, young men and women should do all they can to stop this feeling and they can only do it by having a genuine Hallowe'en party. The expense for such a party need not be large; but endeavor to have everything appear as spooky as possible. This may be accomplished in many ways, but the following has been tried and proved very successful. When the invitatlons are sent out, request that the girls come dressed as ghosts and the men in black robes, masks and skull caps. Let the lights in all the rooms be dim and cover them with black shades. Jack-o'-lanterns may also be used for light. Cornstalks, sheaves of grain and vegetables may be used for decoratlons. Candles may be made of carrots and used for lighting the hallways and rooms where the wraps are to be removed. As the guests arrive, greet each in a cold, severe manner and yet whisper all the time or speak in a low voice which ls void of all implicatlon. To liven up such a party and

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SAN FRANCISCO

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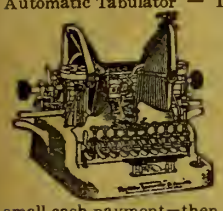
# A $100 Typewriter for 17 Cents a Day!

Please read the headline over again. Then its tremendous significance will dawn upon you.

An Oliver Typewriter—the standard visible writer—the $100 machine—the most highly perfected typewriter on the market—yours for 17 cents a day!

The typewriter whose conquest of the commercial world is a matter of business history—yours for 17 cents a day!

The typewriter that is equipped with scores of such conveniences as "The Balance Shift"—"The Ruling Device"—"The Double Release"—The Locomotive Base"—"The Automatic Spacer"—The Automatic Tabulator"—"The Disappearing Indicator"—"The Adjustable Paper Fingers"—"The Scientific Condensed Keyboard."



## Yours for 17 Cents a Day!

We announced this new sales plan recently, just to feel the pulse of the people. Simply a small cash payment—then 17 cents a day. That is the plan in a nutshell.

The result has been such a deluge of applications for machines that we are simply astounded.

The demand comes from people of all classes, all ages, all occupations.

The majority of inquiries has come from people of known financial standing who were attracted by the novelty of the proposition. An impressive demonstration of the immense popularity of the Oliver Typewriter.

A startling confirmation of our belief that the Era of Universal Typewriting is at hand.

## A Quarter of a Million People are Making Money With The OLIVER Typewriter

### The Standard Visible Writer

The Oliver Typewriter is a money-maker, right from the word "go!". So easy to run that beginners soon get in the "expert" class. Earn as you learn. Let the machine pay the 17 cents a day—and all above that is yours.

Wherever you are, there's work to be done and money to be made by using the Oliver. The business world is calling for Oliver operators. There are not enough to supply the demand. Their salaries are considerably above those of many classes of workers.

### "An Oliver Typewriter in Every Home!"

That is our battle cry today. We have made the Oliver supreme in usefulness and absolutely indispensable in business. Now comes the conquest of the home.

The simplicity and strength of the Oliver fit it for family use. It is becoming an important factor in the home training of young people. An educator as well as a money maker.

Our new selling plan puts the Oliver on the threshold of every home in America. Will you close the door of your home or office on this remarkable Oliver opportunity?

Write for further details of our easy offer and a free copy of the new Oliver catalog. Address

**The Oliver Typewriter Company**
**257 California St. San Francisco, Cal.**



**Wireless Telegraphy** Now is the time to engage in the study of this new science. 1,000 operators wanted to fill positions created by U.S. government action. Salary of trained operators ranges from $15 to $40 per week.

**The Wireless Institute of California**
is the best equipped wireless school in the world for teaching this science. We are located so that our high power station is in daily conversations with all stations on the Pacific Coast. It. It. Commercial School of Telegraphy owned and operated in connection with us. We can qualify you for a position anywhere. Young men and women write for descriptive circulars.

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SAN FRANCISCO, CAL.


Paradise, Butte county, held a fruit and flower show last Saturday.

to make each one feel at ease let someone in a loud whisper propose to play hide and seek. Each ghost hides and is sought. After the unnaturalness has worn off let the party sit down in a half circle and ask each one to tell a ghost story in a very ghostly voice. While these stories are being told, the hostess may quietly step out and return with rosy red apples, pop corn and home made candles. After refreshments are over let each one remove his mask; then turn on the lights a little more and ask some good reader to read Tam O'Shanter. Then if the evening is not spent, let the lights be turned on and such games as egg rolling, trying to pick up an egg with a teaspoon and to pick apples out of a pan of water with the teeth may be indulged in.—Ex.

### HOMELY HINTS.

Soak vessels in cold water rather than hot to remove dough or any substance that may adhere to cooking utensils.

Care should be taken to thoroughly air clothing after the weekly washing and ironing. Many cases of cold and rheumatism have been contracted by wearing damp clothing or sleeping in imperfectly aired sheets.

To fry bacon lay thin slices in a cold frying pan and heat gradually. It is not so apt to curl and shrivel cooked in this way.

Bacon is better if fried without freshening, as it retains its flavor if not put into water.

If eggs are served with fried bacon, have the grease piping-hot when eggs are dropped in and cook quickly to prevent absorbing grease.

All salt fish should be well rinsed before putting to soak and always placed in water skin side uppermost.

If codfish is allowed to simmer very slowly on back of stove until soft and then picked from the bones, it will be more easily done than to soak in cold water.

The odor of fish can be removed from knives and cooking utensils by washing in water containing common baking-soda.

Kerosene oil is most excellent for cleansing purposes. It is particularly cleansing to porcelain bath tubs or sinks.

Common wood-ashes on a damp cloth will remove stains from enameled pans and cups. If the cloth is wet with ammonia and then dipped into the ashes the effect is almost magical.

When packing for traveling or to lay away, if sleeves of coats or jackets are stuffed with soft tissue-paper they will be found free from creases and wrinkles.

If wet shoes are filled with paper when put away the paper will absorb the dampness and the shoes be left dry and soft.

Milk toast is much better if the hot, creamy milk is served in a covered pitcher, each individual pouring it onto the hot buttered toast. It prevents the toast from becoming soggy.

Woolen blankets should be placed in boxes lined with newspapers, and wrapping the blankets well in papers is an additional precaution against moths.

Wash the egg-beater immediately after using while the egg is soft and more easily removed.

When cleaning a carpet sweeper be careful not to pull hair and threads from the brush without first clipping all threads and hair with the scissors as pulling will injure the bristles of the brush.

In order to work easily, perfectly and effectively, as well as to preserve the carpet sweeper, it should be frequently cleaned.

Apply vaseline to a burn immediately. The sooner air is excluded from the seared surface the less pain and danger of a blister.

Heavy irons are preferable to light ones. They do better work and more easily.

A very palatable dish can be made from left-over rice if placed in a well buttered baking-pan—first a layer of rice, then grated cheese covered with white sauce until the pan is filled. Bake 20 minutes in a moderate oven.


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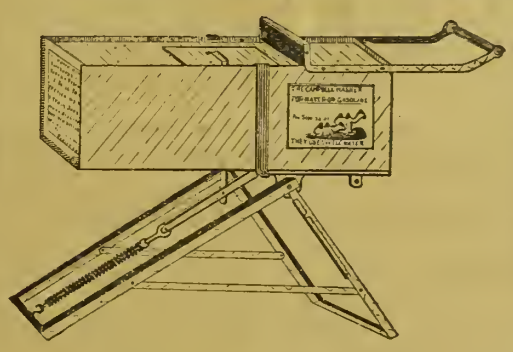
## A Campbell Washing Machine



will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect. fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

**FOR WATER OR GASOLINE**

Circular on application. **For Sale by**

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**$16.30 buys this handsome six-hole Nickel-Trimmed Cast Range direct from the Manufacturer**

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

## The Wm. Peck Co.

**2803 Folsom Street, San Francisco, Cal.**

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Oct. 27, 1909.

### Butter.

Light receipts and steady prices are the only features of the market.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

| | |
|---|---|
| Creamery per roll | 70@75 |
| Dairy per roll | 32 |
| Eastern Creamery per roll | 70 |
| Cooking | 26 |
| Ladles | 26@27 |

### Cheese.

| | |
|---|---|
| Anchor large | 20 |
| Northern fresh | 18 |
| Young America | 21 |
| Domestic Swiss | 23 |
| Imported Swiss | 32 |

### Eggs and Poultry.

The market is practically bare of local offerings while eastern selects are in good demand. Prices rule steady and unchanged from last week.

Paying price f. o. b. L. A. is:

| | |
|---|---|
| Local candled | 47@50 |
| Case count buying price | 42 |
| Eastern fresh | 34 |
| Storage | 32 |
| Northern, candled | 38 |
| Northern, case count | 36 |

Dealers pay for live poultry f. o. b. L. A.

| | |
|---|---|
| Hens per pound | 18@19 |
| Roosters | 9@18 |
| Broilers 1¼ to 2 lbs. | 18@20 |
| Roasters 3 lbs. and up | 18@19 |
| Turkeys | 20@24 |
| Geese | 10@12 |
| Ducks | 10@12 |
| Squabs | 1.25@1.75 |

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

| | |
|---|---|
| Hogs from 175 to 200 pounds | 7½ |
| Prime steers | 4½ |
| Heifers | 3½@4¼ |
| Calves per pound | 5 |
| Sheep ewes per head | 3.75@4.00 |
| Lambs per head | 3.75@4.00 |
| Wethers | 4.50@5.00 |

### Potatoes.

Wholesale prices are:

| | |
|---|---|
| Yellow sweets per ctl. | 1.85@2.00 |
| Burbank local | 1.00 |
| Highlands | 1.10@1.25 |
| Salinas | 1.65@1.75 |

### Onions.

Wholesale quotations:

| | |
|---|---|
| Silverskins local lug | 1.00 |
| Northern Yellow Danvers | 1.25 |
| Australian Browns per sack | 1.25 |
| Garlic | 7@8 |

### Vegetables.

| | |
|---|---|
| Artichokes locals | 75@90 |
| Beets, sk | 90 |
| Beans, string | 5½@6 |
| Beans Limas | 4@5 |
| Brussels sprouts per lb. | 10 |
| Bell peppers | 4 |
| Cabbage, per sack | 1.25@1.40 |
| Celery per crate | 2.50 |
| Chili per lb | 2 |
| Cucumbers per box | 40 |
| Cauliflower per doz | 90@1.00 |
| Carrots per sk | 90 |
| Corn per box | 50@60 |
| Egg plant per lb | 3@4 |
| Green onions per doz bunches | 20@35 |
| Hubbard squash per lb. | 1½@2 |
| Summer squash per box | 40 |
| Lettuce choice per crate | 75@1.25 |
| Leeks | 35@40 |
| Oyster plant | 35@40 |
| Okra per lb | 7@8 |
| Peas per lb. | 5½@6 |
| Parsley, per doz. bunches | 25 |
| Parsnips doz | 40 |
| Radishes per doz | 20@25 |
| Rhubarb, No. Strawberry box | 175@2.00 |
| Rhubarb, crimson winter | 1.00 |
| Spinach per doz | 20 |
| Turnips sk | 90 |
| Tomatoes lugs | 35@50 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 2.75@3.00 |
| Grapefruit | 2.00@3.50 |
| Lemons | 2.25@3.50 |
| Limes, halves | 1.50@2.00 |

### Fresh Fruits.

Wholesale prices on the market are:

| | |
|---|---|
| Beliefleurs | 1.00@1.35 |
| Fall Pippins | 75@1.25 |
| Winesaps | 1.50 |
| Pearmains Red | 1.20 |
| Greenings | 75@1.10 |
| Jonathans | 2.25@2.85 |
| Arkansas Beauties | 1.25 |
| Smith Cider | 75 |
| Casabas per crate | 1.70 |
| Cantaloupes Jumbos | 2.50@2.75 |
| Christmas melons | 2.00 |
| Figs | 75 |
| Grapes lug box | 75@1.25 |
| Guavas, basket | 04 |
| Persimmons lb. | 8@10 |
| Peaches, per bx. | 1.25@1.50 |
| Pears Bartletts box | 2.00@3.00 |
| Prunes | 1.25@1.50 |
| Pomegranates | 1.25 |
| Quinces per lb. | 05 |
| Roselle lb. | 10 |
| Raspberries | 10 |
| Blackberries | 7@8 |
| Strawberries | 7@9 |
| Watermelons per lb. | 1@1½ |

### Dried Fruits.

Wholesale prices are:

| | |
|---|---|
| Apricots | 11@12 |
| Evap apples fy per lb. | 10 |
| Figs box | 1.25 |
| Peaches | 6@7 |
| Pears | 9@10 |
| Plums pitted | 7@8 |
| Nectarines | 7@9 |
| Prunes | 4½@8 |

### Beans Dried.

Wholesale prices are:

| | |
|---|---|
| Limas per ctl | 4.40@4.50 |
| Pink No. 1 | 4.00 |
| Black eyes | 4.00@4.25 |
| Lady Washington | 4.00 |
| Small White | 4.75 |
| Garvanzas | 3.90@4.50 |
| Lentils | 7.00@8.00 |

### Nuts.

The following wainut prices are not the wholesale, but car lot quotations established by the walnut association.

| | |
|---|---|
| No. 1 soft shell | 11½ |
| No. 1 hard shell | 11 |
| No. 2 soft shell | 7½ |
| Almonds IXL per lb. | 15@17 |
| Pecans polished | 12½@16 |
| Peanuts Eastern | 7 |

### Honey.

Wholesale quotations:

| | |
|---|---|
| Extracted water white | 7½@8 |
| Extracted light amber | 5½@6 |
| Comb Water White | 18 |
| Comb, white | 15 |
| Beeswax | 25 |

### Hay.

| | |
|---|---|
| New Barley hay | 10.00@14.50 |
| Alfalfa, local | 11.00@12.50 |
| New alfalfa Imperial | 11.00@12.00 |
| Northern | 11.00@12.50 |
| Wheat hay | 11.00@13.50 |
| Tame oat | 11.00@15.50 |

### Grain.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Wheat new per ctl | 1.90@1.95 |
| Kaffir corn | 2.00 |
| Corn | 1.75 |
| Egyptian corn | 1.80 |
| White oats | 1.75 |
| Seed Rye | 2.10 |
| Popcorn | 3.75 |

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Cracked corn | 1.80 |
| Cracked wheat | 2.10 |
| Shorts | 1.85 |
| Bran | 1.60 |
| Cocoanut cake | 1.35 |
| Cocoanut meal | 1.85 |
| Cottonseed meal | 1.25 |
| Oil cake meal | 1.85 |
| Feed meal | 1.85 |
| Rolled Barley | 1.50 |

## San Francisco Markets

SAN FRANCISCO, Oct. 26, 1909.

### Butter.

Dealers still prefer to hammer the price and sellers refuse to concede, resulting in steady market with prices unchanged.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

| | |
|---|---|
| California extras per lb | 32 |
| Cal. firsts | 31½ |
| California seconds | 29 |
| Storage extras | 30 |

### Cheese.

| | |
|---|---|
| California flats | 14@16 |
| Cal. Young America fy | 17½ |
| Young American Oregon fy | 17½ |

### Eggs and Poultry.

Eggs advanced slightly with moderate inquiry. Market firm and with cooler weather. Advancing prices are in sight.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

| | |
|---|---|
| Fresh ranch extras | 55 |
| Firsts | 47 |
| Seconds and thirds | 24@30 |
| Storage extras | 30 |
| Hens per doz | 4.50@9.00 |
| Roosters per doz | 3.50@9.00 |
| Fryers per doz | 5.00@6.00 |
| Broilers | 2.50@4.50 |
| Geese per pair | $1.50@2.50 |
| Ducks | 4.00@8.00 |
| Turkeys | 19@22 |
| Pigeons young | 1.00@2.50 |

### Live Stock.

San Francisco prices gross weight:

| | |
|---|---|
| Steers | 2¾@4⅝ |
| Cows and heifers | 2@3⅜ |
| Hogs | 4½@7¼ |
| Calves per lb. | 4@5¼ |
| Milk lambs | 5¼@5½ |
| Wethers No. 1 | 4½@4¾ |
| Ewes No. 1 | 3¾ |

### Potatoes.

Wholesale market quotations:

| | |
|---|---|
| River Whites crates | 55@65 |
| Salinas | 1.25@1.40 |
| Oregons | 90@1.25 |
| Sweets | 1.60@1.70 |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Bell peppers per box | 40@50 |
| Cucumbers per box | 40@65 |
| Celery, doz. | 25@40 |
| Chili peppers per box | 40@60 |
| Corn per sk | 1.00@1.25 |
| Egg plant per box | 35@60 |
| Green peas per lb | 3@6 |
| Okra | 60@75 |
| Rhubarb per box for bay | 1.25@1.50 |
| Squash per box | 40@65 |
| String beans | 2@4 |
| Tomatoes | 35@65 |
| Wax beans | 2@3 |
| Lima beans | 5@6 |
| Garlic | 4½@5 |

### Onions.

| | |
|---|---|
| Yellow onions | 70@85 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 2.00@3.00 |
| Grapefruit | 1.00@3.25 |
| Lemons | 1.50@4.50 |
| Limes | 6.00@6.50 |

### Fresh Fruits.

| | |
|---|---|
| Beliflowers | 1.00@1.15 |
| Figs blk box | 50@1.00 |
| Isabelias | 65@75 |
| Other varieties | 40@65 |
| Zinfandel and wine grapes per ton | 10.00@15.00 |
| Peaches per lug box | 50@1.00 |
| Plums boxes | 50@65 |
| Pears, winter Nellis | 75@1.50 |
| River Nutmegs per box | 40@75 |
| Pears, cooking, box | 40@75 |
| Pomegranates | 50@65 |
| Quinces | 75@1.00 |
| Huckleberries per lb. | 10@12½ |
| Raspberries per chest | 5.00@7.00 |
| Strawberries per chest | 3.00@5.00 |

### Dried Fruits.

| | |
|---|---|
| Santa Clara prunes | 2¾@3 |

1 cent premium for larger sizes.

| | |
|---|---|
| Apricots per lb. Royal | 9@10½ |
| Apricots Moorpark | 11@12½ |
| Peaches—Choice | 5; Fancy 7 |
| Apples evap | 7½@8½ |
| Pears | 6@9 |
| Figs | 3@4 |
| Nectarines | 5@6 |
| Plums | 7@8 |
| Apples | 6½@8½ |

### Raisins.

1909 crop, f. o. b. Fresno, 1-lb. cartons—Choice, 4½c; Fancy, 5¼; Seedling Stock, 2½c, sweat-box; London Layers, 2-crown, 90c; do, 3-crown, $1; Fancy Clusters, $1.25; do. Dehesa, $1.50; do. Imperials, $1.75; Loose Muscatel, 2-crown, 3c; 3-crown, 3½c; 4-crown, 4c.

### Nuts.

| | |
|---|---|
| Walnuts soft shell No. 1 | 12½ |
| Walnuts S. S. No. 2 | 7½ |
| Walnuts, hard shell | 11½ |
| Almonds '09 N P U | 12¾@13¼ |
| Almonds '09 nonp | 14½ |
| Almonds '09 I X L | 14@15½ |
| Pecans | 15@17 |
| Chestnuts | 14@15 |
| Peanuts | 5@6 |
| Pine nuts | 22½@25 |

### Beans Dried.

| | |
|---|---|
| Limas | 4.15 |
| Pink | 3.25 |
| Small white | 4.25 |
| Large white | 3.25 |
| Black eyes | 4.15 |
| Red kidneys | 4.00 |
| Garvanzas | 3.00@3.10 |
| Bayo | 4.15 |
| Horse beans | 1.90@2.00 |
| Cranberry | 4.25@4.50 |

### Hops.

| | |
|---|---|
| Hops 1909 crop | 25@26½ |
| Hops 1908 crop | 12@18 |
| Old | 8@12 |

### Honey.

| | |
|---|---|
| White comb | 14@15 |
| Light Amber | 10@12 |
| Extracted W W | 7½ |
| Extracted light amber | 6½@7 |
| Beeswax per lb | 25@29 |

### Hay.

Scott, Magner & Miller say:

Receipts of hay for this week have been 2900 tons, which amount is considerably less than we received during the preceding week. Considerable of the hay that has come in this week has been handled with some difficulty, as the entire week's business has been so unsettled and demoralized by our week's Portola festivities that the entire conditions have been unsatisfactory.

There has been no particular change in prices. Fancy wheat hay and choice red oat hay, which have been in light supply during the week have sold fairly well. The entire line of medium varieties of hay have moved off slowly, and with no better results than were obtained during the previous week.

Alfalfa hay has arrived freely by water, and much effort has been necessary to obtain sale for these large quantities. Concessions in prices are freely made to induce buyers to take hold. When the river banks are entirely cleared up, a little better tone to the market may possibly be looked for.

Arrivals of straw are very moderate, and while the demand is equally so, there is a shade of firmness to the situation on account of the known necessity of beginning to draw upon the warehouses for our immediate supply.

This week's quotations are:

| | |
|---|---|
| Choice wheat hay | 1900@20.00 |
| No. 1 wheat or wheat & oat | 17.00@18.00 |
| No. 2 wheat or wheat & oat | 14.00@15.00 |
| Choice tame oat | 16.50@17.50 |
| Other tame oats | 14.00@15.00 |
| New crop wild | 11.00@15.00 |
| Stock hay | 8.00@9.00 |
| Alfalfa | 10.00@13.00 |
| Straw | 55@65 |

### Grain.

| | |
|---|---|
| Wheat No. 1 | 1.75@1.80 |
| Barley No. 1 | 1.35@1.46¼ |
| Oats white | $1.55@1.60 |
| Oats gray | 1.55@1.60 |
| Rye new crop | 1.75@1.85 |
| Cal sm round corn | 1.70@1.75 |
| Alfalfa seed | 16@18 |
| Mustard brown | 3¾@4½ |
| Millet | 2½@3 |
| Flaxseed | 4 |
| Broom corn seed per ton | 23.50 |

### Feed Stuff.

| | |
|---|---|
| Bran per ton | 29.00@30.00 |
| Feed cornmeal per ton | 38.00@39.00 |
| Cracked corn per ton | 39.00@40.00 |
| Ground barley per ton | 29.50@31.00 |
| Rolled oats per ton | 37.00@38.00 |
| Oil cake per ton | 38.50@40.00 |
| Cocoanut cake per ton | 25.00 |
| Middlings | 36.00@37.50 |
| Mixed feed per ton | 28.00@32.00 |
| Shorts | 31.50@33.00 |

## Deciduous Market

The California Fruit Distributors has received reports of sales of fruit Monday in the East as follows: 32 in New York, 21 by Distributors; 10 in Boston, 8 by Distributors; 17 in Chicago, 9 by Distributors; 11 in Philadelphia, 9 by Distributors; 4 in St. Louis by Distributors; 3 in Baltimore by Distributors; 1 in Buffalo by Distributors; 2 in Minneapolis by Distributors; 6 in Pittsburg, 5 by Distributors; 1 in Cincinnati by Distributors.

Fruit prices averaged as follows:

New York, Tokays, irregular quality, good many showed decay, $1.05; Malagas, $1.27; Cornichons, $1.20; Emperors, $1.25; Half Nellis, $1.85.

Chicago, Tokays, 65c to $1.30. Malagas, $1.00; Cornichons, $1.10.

Boston, quinces, $1.30; Cornichons, $1.15; Tokays, mostly poor condition, 75c to $1.70, average 95c.

## Citrus Market

LOS ANGELES, Oct. 20, 1909.

Valencias are still calling for the best price of the season, and as but a small quantity remain to go forward, the outlook is good. On the new crop of navels no quotations are made as yet, but few cars going on. By the 7th, 8th and 10th of November, the first regular shipments for the trade will go forward, and from present outlook good prices are expected.

Lemons are bringing the highest prices of the season, and very satisfactory conditions prevail. Even the auction markets are running well up, and a buoyant condition prevails all aiong the line.

**SHIPMENTS.**

Total shipments of citrus fruits since Nov. 1, 1908; 37,905 cars, of which 31,768 were oranges and 6137 lemons. To same date last season; 29,394 cars, of which 24,517 were oranges and 4877 lemons.

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NEW YORK, Oct. 22.—Four cars of oranges and one car of lemons sold. Market steady on oranges. Lemons very strong and active. Weather cool and cloudy.

| VALENCIAS— | Avg. |
|---|---|
| Blue C, Covina Exchange | $3.75 |
| Cougar, Covina Exchange | 3.00 |
| Old Mission, Chapman | 6.45 |
| Golden Eagle, Chapman | 3.70 |
| Swastika, L. V. W. Brown | 3.20 |
| None Better | 3.70 |
| Ashton | 2.90 |

Lemons—Selected, $.70.

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CLEVELAND, Oct. 22.—One car of Valencias sold. Market firm on good fruit. Cool. Valencias, California Orange, Riverside Exchange, Riverside, $2.25.

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PHILADELPHIA, Oct. 22.—Two cars Valencias and one car Floridas sold.

| VALENCIAS— | Avg. |
|---|---|
| Colombo, Fullerton | 3.45 |
| Los Palmos | 2.95 |
| Tourist, T. McGowan & Willard | 3.30 |
| Beach | 2.95 |

One car Floridas, $1.85@2.25.

PITTSBURG, Oct. 22.—One car sold. Market firm on good fruit. Cool. Valencias—Lincoln, A. H. Casa Blanca, $2.55; Navajo, $1.80.

BOSTON, Oct. 22.—Four cars sold. Cloudy. Market very strong. Prices higher.

| VALENCIAS— | Avg. |
|---|---|
| Planet, S. S., Orange | 3.05 |
| Carmencita, S. T., Fullerton | 3.55 |
| Orchard, National Orange Co. | 4.20 |
| Success, Speich & Green | 3.05 |
| Searchlight, S. S., Orange | 2.70 |
| Colombo, S. T., Fullerton | 3.15 |
| Standard, National Orange Co. | 3.55 |
| Our Popular, Green & Speich | 2.70 |

ST. LOUIS, Oct. 22.—Weather favorable. Market is advancing. Two cars sold.

| VALENCIAS— | Avg. |
|---|---|
| Planet, S. S., Orange | 3.15 |
| Sunset, S. S., Orange | 2.70 |
| Searchlight, S. S., Orange | 3.00 |
| A One, S. Peycke Co. | 2.30 |
| LEMONS— | Avg. |
| Green Crown, O. K. & A. C. G. | 3.50 |
| Stock Label, O. K. & A. C. G. | 2.65 |
| Blue Jay, O. K. and A. C. G. | 3.25 |
| Coyote, O. K. and A. C. G. | 3.25 |
| Swallow, O. K. and A C. G. | 3.30 |

NEW YORK, Oct. 25.—Twelve cars oranges and one car grapefruit sold. Market very strong and active with an upward tendency. Weather clear and cool.

| VALENCIAS— | Avg. |
|---|---|
| Swastika, L. V. W. Brown | 3.00 |
| Aurora, E. Peycke Co. | 3.35 |
| Old America | 2.15 |
| Shamrock, T. Strain | 5.10 |
| Caledonia, E. Strain | 4.15 |
| Cambria, T. Strain | 3.20 |
| Golden Orchard, Ind. F. Co. | 3.10 |
| Geisha, J. S. Kuns | 2.60 |
| Scepter | 4.15 |
| California Belle, S. T. Ex., Fuller. | 6.10 |
| Carmencita, S. T. Ex. | 3.40 |
| Colombo, S. T. Ex. | 3.25 |
| Butterfly, Covina Ex. | 3.55 |
| Old Oaken Bucket, Covina Ex. | 3.10 |
| Orchard, National O. Co. | 3.95 |
| Standard, National O. Co. | 3.30 |
| Old Mission, Chapman | 6.65 |
| Golden Eagle, Chapman | 3.85 |
| Magnolia, Worthley & Strong | 3.05 |
| San Rafael, H. W. Bailey | 3.65 |
| San Pasqual, H. W. Bailey | 3.15 |

GRAPEFRUIT—Cerrito, halves, 70c; Plain Ends, boxes, 85c; Redlands, best boxes, 85c; E. Highlands, 80c.

PITTSBURG, Oct. 25.—Market firm on good stock, large sizes.

| VALENCIAS— | Avg. |
|---|---|
| Arch | 2.70 |
| Pond Lily, A. H. and Riv. Ex. | 2.60 |
| Scroll | 1.80 |
| Squirrel | 2.50 |

CINCINNATI, Oct. 25.—Cool. Market strong on Valencias. The market is steady on lemons and on Florida oranges. Two cars Florida oranges sold, one car Valencias, one car lemons sold.


# Auction

TUESDAY, NOV. 2ND AT 10 A. M.

120 COWS AND HEIFERS

On the old Scherer Ranch, quarter mile west of P. E. Depot.

COMPTON

Take Pacific Electric Cars to Compton.

95 HEAD FINE DAIRY COWS

Jerseys, Holsteins and Durhams, large, fine cattle, big milkers, fresh and coming fresh, all young and in good condition, a First Class Herd.

25 HEAD FINE HEIFERS

Two mares. Purchasers looking for First Class Dairy Stock should not miss this sale. IMPLEMENTS—Mower, 2 Wheel Plows, 2 Farm Wagon Gears, Lot Work Harness, Etc. Etc.

We are closing out this entire herd and every animal will positively go to the highest bidder. NO LIMIT OR RESERVE.

TERMS—Six Months Time will be given with note and approved security and 7 per cent interest on sums over $50. Liberal Discount for cash on time sums. Free lunch at noon.

RHOADES & HULL, AUCRS.

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Phones: F-1259 Main 1259


Florida brights, $2.10@2.35; russets, $1.95@2.45.

| VALENCIAS— | Avg. |
|---|---|
| Lincoln, A. H. and Riv. Exchanges | 2.80 |
| Navajo | 2.45 |
| Fiesta | 1.90 |
| Pond Lily | 1.70 |
| LEMONS— | Avg. |
| Loma, Limonelra F. Co. | 3.85 |
| Selected, N. W. Blanchard | 3.90 |

PHILADELPHIA, Oct. 25.—Four cars Valencias sold, also 1500 boxes Florida oranges and grapefruit., Oranges (Floridas) sold from $1.80 to $2.50; grapefruit, $2.50 to $3.40.

| VALENCIAS— | Avg. |
|---|---|
| Hunter, A.-C.-G., Azusa | 2.65 |
| Navajo, A. H., Casa B. | 2.55 |
| Hobo | 2.40 |
| Orchid, Altland F. Co. | 4.15 |
| Old Oak, Tustin P. Co. | 2.70 |
| Lucky | 2.50 |

BOSTON, Oct. 25.—Four cars sold. Weather favorable. Market firm on good fruit.

| VALENCIAS— | Avg. |
|---|---|
| Pointer, A.-C.-G., Charter Oak | 3.45 |
| Colombo, S. T. Ex., Fullerton | 3.45 |
| Gelsha, J. S. Kuns | 2.75 |
| Carmencita, S. T. Ex., Fullerton. | 3.75 |
| Golden Orchard, Ind. F. Co. | 3.25 |

## CEMENT POSTS.

Quite an extensive use of cement posts has been made in the last few years, but it is a little too soon to draw conclusions as to whether or not the present type of post is practical. It can reasonably be expected that a considerable share of the cement posts now bearing fence will not prove as satisfactory as expected, for the reason that a good many of them have been made by inexperienced persons. The making of cement posts is possibly more of an art than a great many imagine. There are a good many who have made a careful study of the cement post under farm conditions who are of the opinion that the present design of the post is not the best. The chief fault with the cement post at present is that the re-enforcement material is not properly placed. The weak point seems to be at the surface of the ground, as posts break at this point more often than elsewhere when subject to strain. It is believed that this fault can be practically overcome by re-enforcing the post with extra wire at this point. An authority recommends that the re-enforcing material should be doubled for at least a foot above and a foot below the surface of the land. This will cause the post to "give" more uniformly in all parts of its length, or, in other words, one part of the post will be as strong as any other relative to its position. This extra re-enforcement will cost but a trifle. Enterprising makers will no doubt bring the cement post to a high state of perfection in the next few years, and the indications are that the post in the future will be one in which steel and cement are properly combined.—Farmer and Stockman.

## THE ROAD OF THE FUTURE.

All road builders are now engaged in trying to devise a road which will stand motor traffic. Many new methods have been tried, with varying degrees of success, but none of them seem to be perfectly satisfactory. If broken stone is to form the wearing surface, then some means must be found to hold the binding particles so firmly that they cannot be sucked out; and sufficient strength must be given to the mass to enable it to withstand the sliding action of the wheels at bends and turns. Several kinds of tar macadam answer fairly well, but they are expensive.

It seems to me that the most promising kind of road for heavy automobile traffic is what is called Durax in England. It is a pavement of three-inch irregular cubes of hard stone, laid in small segments of circles. These stones can be cut by machinery, and are comparatively inexpensive; they are laid without grout, but there seems to be no reason for its omission except the cost. Great quantities of this kind of pavement have been laid in Germany.

I have no doubt that it will surprise most people here to learn how little material is used in the making of some of the finest roads of Europe. The average thickness of the national roads of France is only five and one-eighth inches; 11 per cent. of them are less than two inches thick, and 42 per cent. are less than four inches thick. Yet they stand constant and often heavy traffic with impunity, and are always in a perfect state of repair. Perfect repair is, indeed, essential, for it needs no argument to show that roads so thin must be free from irregularities if they are to stand at all.—From Ernest Flagg's "Road Building and Maintenance" in the November Century.

In all kinds of farming, profit comes only when we guard against losses.

Taking care of the fertility of the land is insuring future crops.

There is nothing quite equal to gasoline engines for farm power.

The poor road makes delivery of farm crops expensive.

The study of soils is often the first step toward success.

# Business Notes

### NEW GASOLINE ENGINE.

A high-grade Gasoline Engine of 1-horsepower at a moderate price has at last been placed within the reach of every farmer.

There are a thousand and one things for which a 1-horsepower engine can be used to great advantage. Fairbanks, Morse & Co., have placed on the market the "Jack Junior" engine (little brother of "Jack of all Trades.") It is a 1-horsepower horizontal evaporator tank engine entirely self contained, which with the battery box is mounted on a wood base. By filling the tank in the iron base of the engine with gasoline and the evaporator tank or hopper jacket with water, the engine is ready to run.

This is a 4-cycle engine practically frost proof. All parts are carefully designed and are very accessible. This engine is large enough to do very effective work pumping, running cream separators, churns, and other small machines, it is durable and will give excellent service.

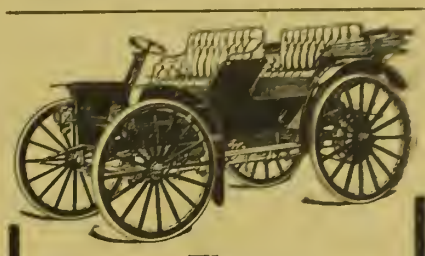
Fairbanks, Morse & Co., are probably the largest manufacturers of gasoline engines in the world. They will be glad to send the book describing fully the new Jack Junior one horsepower engine to all interested parties. See advertisement in this issue.

### COOKING SUGGESTIONS.

"The pie that Mother made." How many of us have said that and laughed at someone's expense when the crust was heavy or the "stuffins" not cooked. The young housewife looks tearfully at the bread that won't raise or the biscuits that are so heavy and wonders what "the lord of the manor" will say when he sits down to an incomplete meal.

A valuable little book called "The Enterprising Housekeeper" has proven of great benefit to thousands of good housewives who have had to contend with the unexpected visitor, the "finicky" appetite and the many other little things that tend to make her life miserable. This book was published to sell for twenty-five cents, but for four cents in stamps, to cover the cost of mailing, the publishers will forward it to you. Address The Enterprise Manufacturing Company of Pa., Dept 55, Philadelphia, Pa.

It contains two hundred recipes of the sort that proves so beneficial to the housewife and makes the practice of economy easy. Many helpful suggestions are made for teas and luncheons. Numerous illustrations of household utensils run through the book. Altogether the book is the best of its kind seen for some time and should be in every household.

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will carry you the farthest and the longest for the least money.

The **International** Auto Buggy

is not the lowest priced auto but it is the cheapest in the end.

The **International** Auto Buggy

has no tire troubles. Its solid rubber tires will not puncture or blow out.

The **International** Auto Buggy

does not cause continual trouble and repair expense. It gives maximum service at minimum cost.

The **International** Auto Buggy

holds a record of 5000 miles without any trouble or repair expense whatever.

Send a postal for a complete catalogue

**California Moline Plow Company**

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FOR SALE

**20 CARLOADS OF MERCHANT NEW PIPE**

**Galvanized and Black—All Sizes**

Just arrived from the mills. We are offering this pipe at the lowest prices obtainable on the Pacific Coast. Write or telephone for quotations. Call and inspect the stock. We can cut pipe to any measurement you want. Our carload brass valves just arrived from one of the largest brass works in the East. All first-class new goods. Hose bibb, garden valves, angle valves and globe valves. Two carloads oil well casing, 11⅝, 9⅝, 7⅝, 5⅝, 4, 3½, 3¼ and 3-in casing.

**Adams Pipe Works**

**2025 Bay St., Los Angeles**

**Phones—F1917, Bdw. 1264**

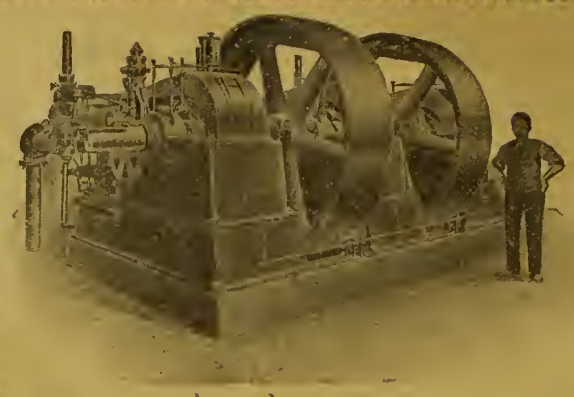
# "Without a Peer"

says one of our customers, writing regarding his WESTERN engine. Extract from his letter is given below:

"It pleases me greatly to be able to say that the engine recently purchased of you has more than met our highest expectations. Of its kind, it is my belief that it is **Without a Peer** in all the West.

In the purchase of the engine I carefully looked over the market, had seen every high powered combustion in the State, had given every argument due weight, had fully considered costs of other powers—both as to first cost and cost of operation—and now after a good test stand ready to say that I do not think we have made a mistake in securing your engine."

The engine referred to is of the size and type shown in cut, and is used for pumping water near San Francisco, Cal.



250 H. P. Western Engine

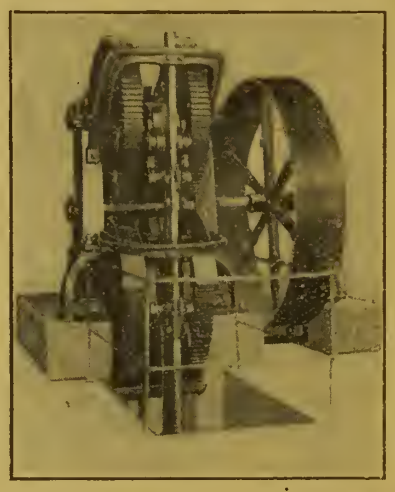
## Western Gas Engine Company

Builders of Gas and Distillate Engines and Hoists. Engineers and Constructors of Power Plants of Every Size, for Every Purpose.
Sole Manufacturers of the Nix-Frost Crude Oil Suction Gas Producer (Patented)
The Cheapest Power on Earth.

**WORKS & MAIN OFFICE:**
**Los Angeles, Cal.**

**NORTHERN BRANCH:**
**San Francisco, Cal.**

# The Smooth Running, Noiseless Pomona Deep Well Pump



It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

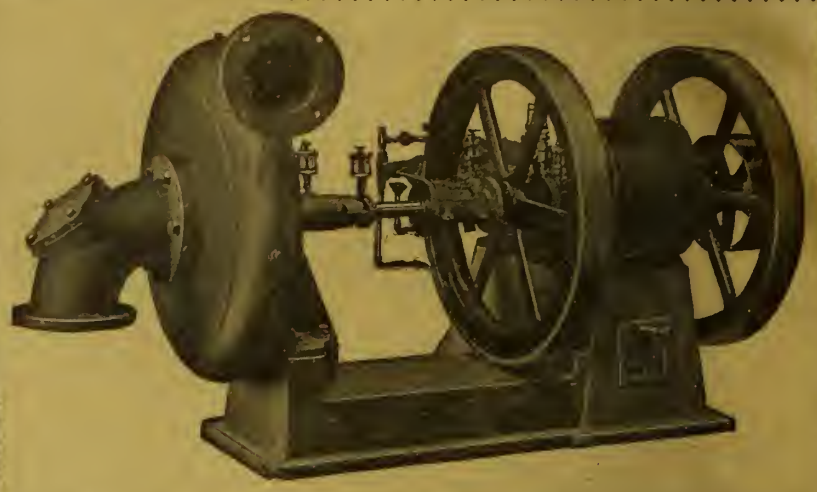
This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.

## POMONA MANUFACTURING CO.

**POMONA, CALIFORNIA**



# BYRON JACKSON IRON WORKS

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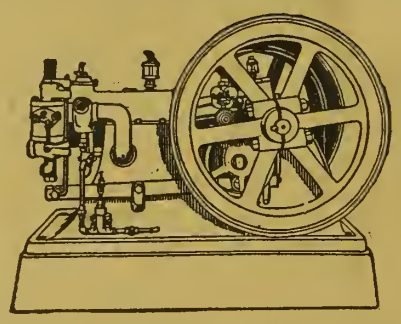
**SAN FRANCISCO** 351-355 Market Street
**LOS ANGELES** 212 N. Los Angeles St.
**SPOKANE, WASH.**
**SEATTLE, WASH.**

# Alamo and Union Distillate Engines

**New Stock just Received**

**Strong**

**Economical**



**Easily Operated**

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Electric, Steam and Gasoline Irrigating Plants Installed.
We buy sell, exchange and rent machinery.

## Bailie & Brandt Company

ENGINEERS

**Office and Works, 943 N. Main St., Los Angeles**

Write for particulars.

# *Not too Heavy Not too Light But Just Right*

Send for Bulletin No. 12.

## *COMMERCIAL ENGINE CO.*

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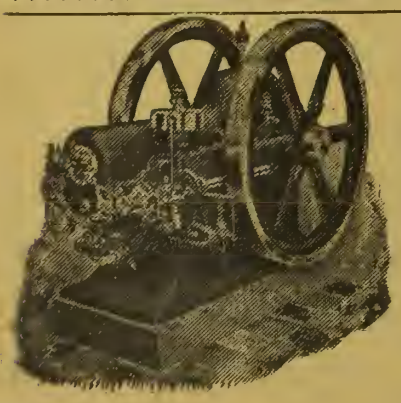

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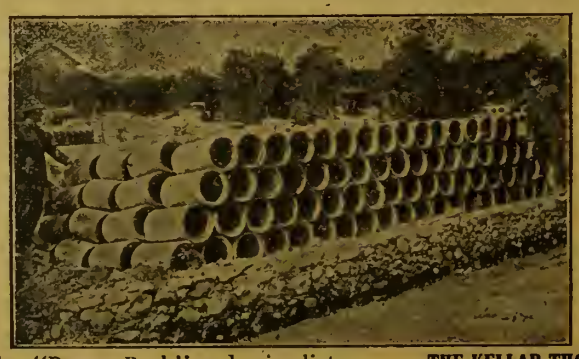

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## Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

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# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles November 4, 1909 San Francisco

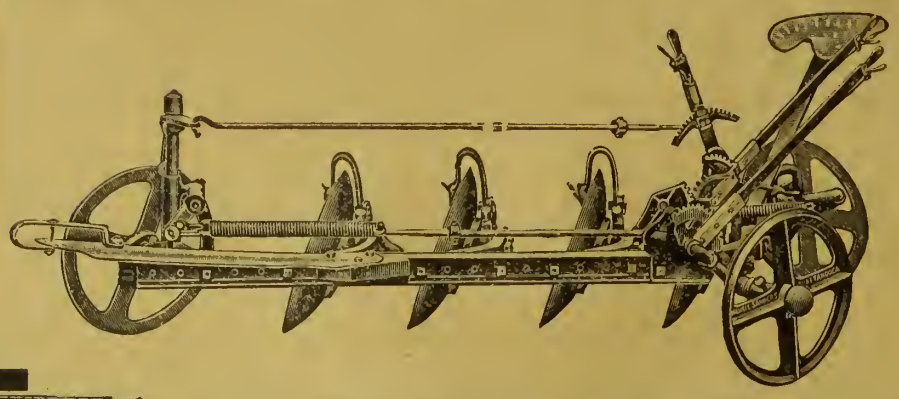

## State Farm Educating Youth in Scientific Methods

Picnic Scene at the Agricultural High School, Davis

WHILE we will not say that the chief end in life is money, we must consider that the attainment of the ideal country life and the attractiveness which is necessary to lead the youth to see the good there is in it, is dependent upon the financial returns of the labor and time expended. Something must be done, therefore, to increase the profits of agriculture. We may say that the first demand of modern agriculture is how to produce larger crops and better products at less cost and still maintain the soil fertility. The larger part of California agriculture has consisted of a mining of the soil rather than a farming of the soil. We have gone at it in the same manner that the miner has dug for gold in the mountains and gravel beds. The result is that our soils are less productive than formerly; we have taken out the soil fertility which was most readily available, and now are confronted with the problem of making available the remaining fertility and of building up the soil so that the original yields may again be secured. We find we must call upon the experiment station and the scientist to help us. The scientist has been working on this problem for half a century or more, but it is only very recently that we have looked to him for help. We find that by following the results of his experimentation and his directions, that we have better yields of better products from our soil, and at the same time put our soil in better condiion for future production.—Prof. Leroy Anderson at Farmers Week Session.

# EVERYTHING FOR THE RANCHER.

## The Sanders-Arnott Disc Plows



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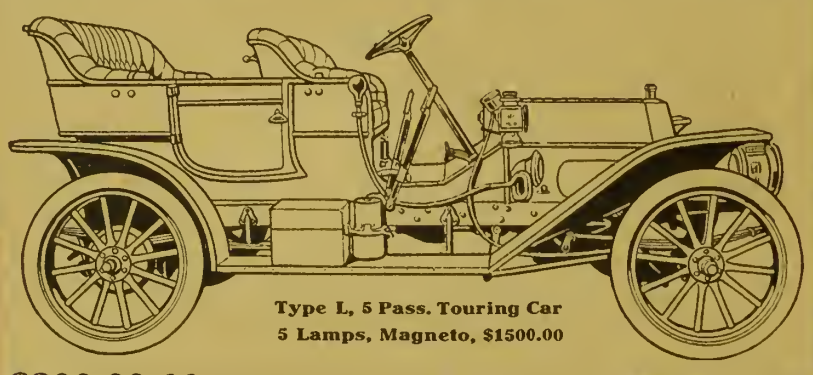

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Are now required for all Fruit Packing Houses which seek to economize and systematize the handling of fruit. Trucks should be abandoned and A-F Gravity Conveyors installed for carrying boxes from packers to presses, thence to storage and cars.

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# California Cultivator

Vol. XXXIII—No. 19 Los Angeles, California, Thursday, November 4, 1909 Subscription $1 a Year

# A Week of Instructive Features at the State Farm

## University Instructors and Others Fill the Week with Good Things

IN AN article describing the State farmers' institute at Davis last year, the Cultivator said: "The attendance at the institute was disappointing. Especially was this noticeable as to the people of Yolo, Solano and Sacramento counties. But few people from these sections could be found, though many farmers were coming and going to and from Davis at that time." If that was true last year, it was more so this, for the absence of local farmers was very pronounced. Inquiry as to the cause brought out the usual "busy" excuse, and the feeling of many farmers that President Wheeler is not doing all for the farm at Davis that it deserves. But, regardless of any attitude of President Wheeler, the College of Agriculture gave last week a course of lectures which would well have repaid any producer in the state for attending. The program began on Monday morning and continued until Saturday afternoon, the day's exercises starting at eight in the morning and ending at nine or ten in the evening.

It was a week of hard work for everyone who attempted to take in all of the lectures. In fact, one could not get them all, for part of the time a lecture was being given in Room 10 when other exercises were taking place in the pavilion.

It is impossible to give a report of each day's program, but on this page and the editorial page this week will appear items from the various sessions; and from time to time in the future, other addresses will be given.

### The Farm.

The 780 acres which comprise the farm show but slight change since last year. The dormitory then nearing completion is now occupied and affords a good home for the boys attending the school. Adjoining it is the dining hall almost completed. To the south are two buildings under construction. The frame work of one of these shows a building of good proportions to be devoted to verterinary practice and bacteriology; the other, marked only by a foundation and a few piles of lumber is to be the horticultural building. Back of this is a small work shed where grafting and similar work will be taught. These, with some additions to Prof. Shaw's building devoted to grasses and cereals, are the only structures erected on the farm since the last institute.

The greatest addition to the farm is probably the registered stock acquired within the last few months. Holsteins and Jerseys are both well represented in the big dairy barn, as are also Shorthorns of the beef strain. All these were used in the judging contests held during the week by Instructors Hawk and Phillips. In sheep the only breed represented is the Shropshire.

### The Program.

The intense interest manifested during addresses and discussions showed that facts were being absorbed that would be carried to the farms and later appear in working results. Prof. Wickson, Dean of the Agricultural College, was present nearly all of the week, as was Prof. I. P. Roberts, formerly Director of the Experiment Station at Cornell University, and connected with Cornell for thirty years. Prof. Roberts is one of those genial, story teling instructors who can sugar coat the most difficut and disagreeable work so that it becomes a genuine pleasure to listen to him. To him was given the honor of delivering the first address of the institute.

### Advice from a Sage.

In referring to the fact that the United States now has six million farms with twenty billion dollars in farm property, the speaker said that our agricultural exports are not keeping up with the growth of the country. Of course, the country has practically had only one hundred years of agricultural development, and if in this time such an immense industry has been built up, it should spur us on to greater development in the future.

One of the greatest steps to be taken, he said, was in soil conservation. The grain grower who hauls 100 bushels of grain to market, hauls with it $20 worth of his soil. This is ruinous, if fertilizing material is not replaced. On many farms in California the average production of wheat per acre is only fourteen bushels. If this is the average, of course many give less. If this is much longer continued, will it be possible for us to produce sufficient wheat for our own consumption?

Prof. Roberts emphatically urged the students not to graduate and then acquire mental dyspepsia from reading the usual daily paper. "Your student life begins after you leave school. Acquit yourselves like men, and above all, get wisdom."

"Two things," Prof. Roberts said, "must be learned: (1), the petty details, the necessity for which every student must appreciate, but don't let them dominate your life; after these are mastered, then (2) see the larger things. Stand off and view in perspective. Get a general idea of the world."

### Stock Judging.

The judging of dairy breeds was conducted by F. D. Hawk, of horses, beef cattle and sheep by Howard Philips, both reguar instructors at the farm. All who wished were invited to join in the judging. Score cards were given out, and when the visitors had taken fifteen minutes or so to judge each animal, the instructors called for decisions, and it must be admitted there was some very good judging, according to the final decisions of the instructors. The judging was on the basis of a good breeding animal. Questions were also asked as to estimates of weight and age, and instruction was given on these points. The lines generally accepted as typical of the good dairy cow, were explained, as were those of beef cattle, horses and sheep.

### University Farm Students Association.

Students who have attended short courses at the college held their second annual meeting on Tuesday. This association serves the double purpose of binding together those who have attended the institution and of fostering any efforts toward the advancement of agricultural education in the state. The former officers were re-elected: W. O. Russell, president; F. S. Daniels, vice-president; L. W. Walton, second vice-president; and A. J. Gaumnitz, secretary and treasurer. The executive committee is composed of Messrs. Jeffries, Walton, and Alemedi. Judge Shields made the annual address to the members.

### Judge Shields.

Judge Shields believes in teaching affirmatively and not everlastingly by don'ts, but by

(Continued on Page 444.)

Haying on State Farm.

Studying the Anatomy of the Horse.

# A Wonderful Discovery in Refrigerating Without Ice or Chemicals

## Describing Newly Invented Cooler Run With Very Little Expense

A most valuable improvement in refrigerating is the invention of Mr. N. F. Anderson of Los Angeles in the method of preserving milk, butter, eggs, fruits and vegetables.

The milkhouse, as it is termed by the designer and builder, as you can note in Figures 1, 2 and 3, consists of a concrete structure with double walls and floor arranged with air and water chambers, through which air is kept in constant circulation and water constantly flowing, if necessary, thereby causing the temperature on the inside of the structure to be reduced sufficiently to make it an ideal refrigerator, in which milk can be kept sweet for days, butter never can get rancid, when made right, eggs will retain their freshness indefinitely, fruit and vegetables can be preserved until a profitable market opens for their disposal.

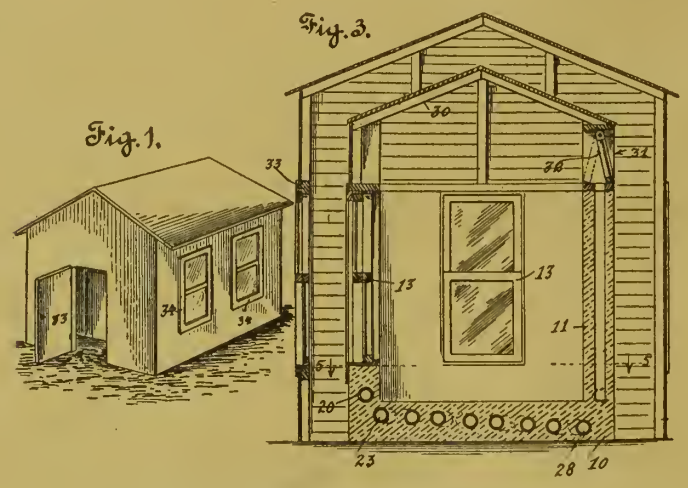


FIG. 1.—A Perspective View of Complete Structure.
FIG. 3.—A Sectional Plan View of Structure.

With this source of refrigerating, ice and chemicals have been dispensed with entirely, which within itself is a tremendous saving in time, labor, money and innumerable in conveniencs. The temperature can be so regulated by the operator that it is a pleasure rather than a burden to operate it, which can be done by a child. Mr. Anderson wishes to tell the public that the cost of constructing this refrigerator plant is very cheap and when once constructed can be operated with but little expense—practically none at all. It is neat, attractive and sanitary, and will last for all time in any climate in the world as has been tested. This refrigerator is bound to refrigerate. By proper structural arrangement this refrigerator can be built and kept where the sun shines the strongest and still be relied upon to do its work of preservation.

One of the most valuable uses to which this refrigerator can be put is that in freezing weather, by the use of ordinary water in its chambers, the temperature may be kept above the freezing point, thereby keeping the most delicate fruits and vegetables from being injured by frost.

Mr. Anderson has herewith given the readers of the Cultivator information enough for them to get a good idea of the wonderful merits of his invention, "the refrigerator" that cannot be claimed by any other refrigerator on the market, and is ready to fill all orders. He will take contracts for building same or will sell for a limited time only, blue prints and full specifications for building same for $5.00, or will send diagrams and specifications showing every detail for a limited time for 50 cents. Mr. Anderson will gladly answer all inquiries pertaining to his refrigerator. Address all communications to Nelson F. Anderson, 4531 Staunton Ave., Los Angeles, Cal.

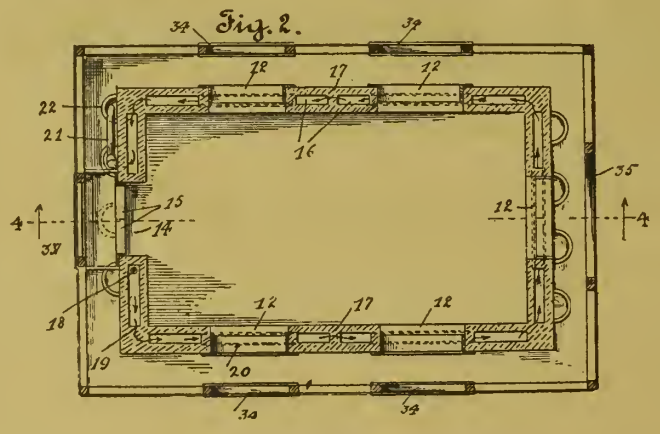


FIG. 2.—A Cross Sectional Elevation of the Structure.

# Citrus and Sub-Tropical Fruits

### SCALY BARK OF CITRUS.

SCALY BARK has been found to be quite destructive to trees of the sweet orange, in at least one of the important citrus-growing sections of the State. The heavy losses occasioned by this disease during the summer and fall of 1906, led the Experiment Station to take up the investigation of this trouble, with the view of ascertaining its cause and finding a remedy. A general account of these investigations is given here, together with recommendations based upon them. A description of the disease with its relation to withertip is also included. It is intended to follow this preliminary report with a more detailed account of the work.

Scaly bark as it occurs in Florida was described under this name in the annual Report of the Florida Experiment Station for 1907, and in the Proceedings of the Florida State Horticultural Society for 1908. Previous to this, H. H. Hume, in a paper on the diseases of citrus, in the Proceedings of the Florida Horticultural Society for 1901, p. 64, speaks of a new disease of the orange; and it appears from his description that the disease referred to was scaly bark as it occurs on small branches. Mention is also made of scaly bark by P. H. Rolfs in the Proceedings of the same Society for 1905, p. 32. A disease of the citrus trees in California, known by the same name, has points in common with the one in Florida.

**Description.**

This is primarily a bark and rind disease of the sweet orange. The wood is only affected secondarily, by poisoning due to the withertip fungus. The bark of the trunk and of branches of all sizes may be affected; but the greatest injury is done to the younger branches and twigs up to about one-half inch in diameter, and to the fruit.

**Scaly Bark of Branches.**

On the branches and twigs there develop more or less circular or oval spots one-sixth to one inch across, rusty in color, and with well-defined margins. The bark becomes brittle, begins to crack, and forms small flakes or scales. These spots are at first scattered, but may increase in number to such an extent as to become joined together. The branch is rarely killed in the first year. During the second year, additional spots form between the old ones, and this may go on for several years until the branch is finally girdled at some point and killed.

The development of the spots from their first appearance to the stage just described, is slow as compared with many other diseases. The spots first make their appearance on branches six to nine months old, or older. On branches younger than this, spots rarely occur. The first indication of a diseased spot on a branch is a slightly raised band or ring one-sixth to one-quarter inch in diameter. In many cases this band is composed of small dots or pustules that appear to have broken out from under the green bark. A small point also appears near the center of the spot. In other cases the beginning of a spot is marked simply by a lemon-colored area, which at its first appearance is nearly the size of the fully matured spot. The bark on the affected area gradually becomes rust-colored, hard, and brittle, and in the course of eight or ten months presents the appearance described above. On new spots only the bark appears to be affected. A new bark is formed under the old as the latter cracks and flakes off. As the spots develop, the withertip fungus comes in as a secondary agent, and poisons the wood, causing the limbs and branches to die. Larger branches, when not too badly diseased, may live on for many years. The bark on these limbs becomes very rough and shaggy, so that it shells off as the hand is passed over it. The outer bark is constantly breaking up into flakes, and an irregular new bark is continually forming under the old.

**Scaly Bark of Trunk.**

This formation of rough scaly bark is also seen on the trunks of badly diseased trees. As time goes on, the trunks present an extremely rough and shaggy appearance. Pieces of bark one-half inch or more in size are pushed up, sometimes over areas of several inches in diameter, or a continuous surface of ruptured bark is formed. New bark arises under the old, and only rarely do dead areas on the trunk result from this disease. The exudation of gum is a usual accompaniment.

**Scaly Bark on the Fruit.**

On the rind of the fruit the spots develop somewhat similarly to those on the small branches. The disease affects only the outer portion of the rind. The spots start either as rings, like those on the small branches, or as round yellowish areas. These usually begin to appear on the fruit in July and August. As the fruit approaches maturity, and while it is still green, the rings become sunken and brown, because of the entrance of the withertip fungus, while their central portions remain green. The fruit then colors rapidly, the portion inside the ring sometimes remaining green for a short time. The center is finally broken down by the withertip fungus, and the whole spot becomes brown. Some spots are formed which are not ringed. Fruit spotted by scaly bark colors prematurely, and drops before the picking season. Occasionally gummy exudations occur at the spots on the fruit.

**The Disease Infectious.**

Scaly bark appears to be infectious. There are reasons to believe that it may spread from tree to tree, and be carried from one grove to another. The history of the disease, as told by several old citrus growers, also points to this conclusion

**Technical Study.**

Studies both in the laboratory and in the field have been carried on to determine the primary cause and to find a remedy for the trouble. Studies of the diseased areas with the microscope and in cultures have so far failed to reveal any organism regularly present within the diseased tissue, except the withertip fungus (Colletotrichum gloeosporioides), and this only in advanced spots. It would appear that not until withertip began to be general in the State, did the scaly bark disease assume any importance. Experiments for the control of the disease have been systematically carried on at Bayview for the past two years. The results obtained have been deemed of sufficient value to be placed before the citrus-growers for their consideotion. The nature of the disease and its slow development upon the limbs and trunks, make the effect of any line of treatment slow in showing itself. As the development of the disease to its destructive form is slow, so the recovery of the tree after the source of infection is cut off requires a long time. We cannot expect to see the beneficial effect of any treatment on the branches in much less time than eight to ten months. Twenty experiment plots, each receiving different treatment, were laid out. These have been continuously under observation, and form the basis for our conclusions.

From the results of our observations and experiments we are prepared to suggest one of the four following remedies.

**Top Working Affected Trees.**

Grapefruit, mandarins, and tangerines appear to be nearly immune to scaly bark, even when surrounded by badly affected sweet orange trees. Diseased trees may therefore be top-worked to one of these varieties. At first sight this would seem to be too severe a remedy; but. as a matter of fact, it can be carried out without serious loss at any one

time. This can be done by treating only alternate trees in a row, or by treating alternate rows. In this way the untreated trees will be found to produce a much larger crop, and this will in a measure compensate for the loss of crop on the top-worked trees.

During December or January, before any spring growth has started, cut off all the large limbs as for ordinary top-working. Then top-graft the trees. If the grafts fail to take, the sprouts that start from the large limbs and body of the tree can be budded at the proper time. Top-working has already been practiced by some growers. As a further precaution, the trunks and branches may be treated with carbolineum as suggested in remedy No. 2. When these top-worked trees begin to produce a fair crop, the untouched trees may be treated in the same way.

If the grower does not wish to be constantly annoyed by sprouts coming from the lower part of the tree, the trunk may be sawed off at the ground and crown grafts put in. This, however, will require a year or more longer to secure a tree in good bearing.

### Heading Back.

During the dormant period, preferably in December or January, cut out the top, leaving only the trunk and the stubs of the larger branches. Then paint the entire bark and the cut surfaces with one part of carbolineum to one part of water. In our treatment of the disease in this way, which began in February, the bark assumed a dark-red color. In a few weeks, as the growing season came on, the tree put out new shoots, and by the end of summer had grown a vigorous, healthy top. By that time the old scabs had disappeared, and the bark had become smooth and free fromflakes. The carbolineum, far from injuring the tree, appeared to stimulate it to increased vigor. Unless the entire grove is treated in this way the young growth should be protected by spraying with a 1 per cent. solution of carbolineum in May or June, when the wood will have hardened.

### Pruning Out.

This is a less drastic and less effective method. Prune out thoroughly all dead branches and weak limbs, and spray with a dilute solution of carbolineum Use a 1 per cent. solution during the growing season. Any strength up to 5 per cent. may be used in the dormant season. The 1 per cent. solution is made as follows: Dissolve 3 pounds of soap in 2 gallons of water, add one-half gallon of the best grade of carbolineum, and make up to 50 galions. The carbolineum diluted in this way is not at all injurious to the hands or face.

### Bordeaux Mixture.

The use of Bordeaux mixture has been attended with beneficial results in diminishing the number of spotted fruits, but with bad results in allowing the increase of scale insects. A thorough test was made as to the effects of this spraying mixture at different times of the year, and with different numbers of sprayings throughout the year. The most marked result has been the diminished number of spotted oranges on the sprayed plots, as compared with the unsprayed plots. This test was repeated in the second year on the same plots and in the same way as at first. During the first year some effect was noticed, especially on those plots where the spraying had begun early in the summer, but the results were not pronounced. During the second year a great diminution of spotted fruit was seen in nearly all of the sprayed trees. The amount of fruit, however, was considerably diminished on the plots sprayed at or near the blooming season. Our experiments indicate that one thorough spraying at any time between November and February is almost as efficient in diminishing the amount of spotted fruit in the following crop, as three or four sprayings during any other part of the year. It is also attended with a smaller increase in scale insects.

### Important Facts.

1. With changed conditions, previously unknown or insignificant diseases of cultivated plants may become destructive.

2. Scaly bark, though long present, has but recently become sufficiently important to demand attention.

3. Scaly bark did not attract much attention until after wither-tip became general. Its destructiveness was increased through the secondary agency of the wither-tip fungus.—H. S. Fawcett of Florida Exp. Sta.


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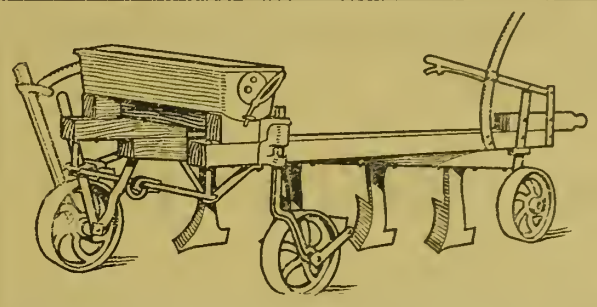

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**CYANIDE** guaranteed 98-99% for generating HYDROCYANIC ACID GAS

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**Gum Disease in Citrus Trees**
**CAN BE CURED**

I have found a remedy that never fails to cure, usually by one application. It has been used the past two years and has always proved affective.

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**200,000 SOUR ORANGE STOCK**

For 1910 Spring Planting. Every plant from Genuine Selected Florida Sour Seed. Also ***Sweet Stock.*** ***Don't*** buy uncertain and inferior grown plants. This is nursery gospel. ***Don't*** waste time and money on inferior stock when you can get the best in Southern California for the same price. ***Don't*** take my word for it; come and see my plants in seedbed and nursery and be convinced. Plants are ***8*** to ***20*** inches now and ***5*** months yet to grow.

**Contract Now, Get the Best and Save Money**

See Them at 232 So. Marengo Ave. Alhambra, California
**Chas. S. McMillan, Citrus Nurseryman**

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WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

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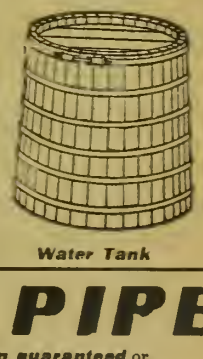
*Wine Tank* 144-154 Berry St. San Francisco, Cal. *Water Tank*



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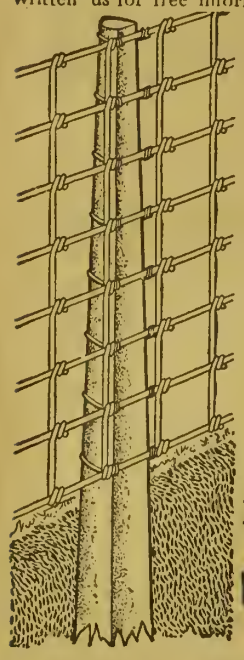
# Everlasting

Don't think of putting up any more wooden fence posts till you have written us for free information as to how easy and cheap you can make solid, reinforced cement posts that can never *rot*, *burn* or *break*. You can make over 100 posts a day, and the material (cement wire and labor) will cost considerable *less* than wooden posts. Winter frosts do not effect the Everlasting.



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Write us today for *Complete Information* on the interesting subject of cement posts. Learn the advantage and cheapness of durable posts with half-round backs and no holes in them and hundreds of other vital points. Complete instructions furnished with each Mandt Post Machine. Now is the time to make Cement Posts. Fall work is about over and posts can be made on days when you cannot work outside.

**Mandt Mfg. Company**
**582 Oak St.**
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**Send for our Free Booklet Today**

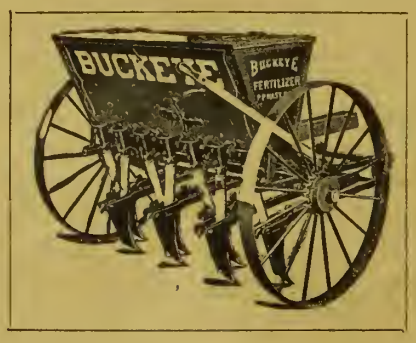


For use in orange groves and vineyards there is nothing better than the

# Buckeye Fertilizer Drill

Set of plates furnished **FREE** with each new drill, if desired.

**For Sowing Vetch and Peas**




We have sold a great many carloads of these drills in Southern California and the Buckeye is now recognized by orange growers and fertilizer men as the best drill made for handling commercial fertilizer. Its low wheels, proper sized box, and large feed openings giving great capacity when desired, make it especially adapted to orchard use.

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Wagons, Carriages, Harness, Farm Implements of all kinds



20 years of fair and square dealing.

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Headquarters for all Commercial Varieties of

## Fruit Trees and Grape Vines

Largest growers of commercial money-making varieties in the state. Write us for prices. Catalogue and price list free. Address

**THE FRESNO NURSERY, Box 615, Fresno, Cal.**



**An Improved Freestone Peach** The best for canning, drying and market.

**Fay Elberta Peach** Superior to Muir or Lovell for canning or drying, and superior to any for market. A heavy and regular bearer, very attractive, firm and of exceptionally fine flavor. Write for descriptive circular.

**The Silva-Bergtholdt Company** 164 Orchard Street Newcastle, Cal.



Don't be sidetracked by using inferior Fertilizers, but use the best - - - - - **Tom Lewis' Fertilizers**

**Unequaled for Field, Garden, Orchard, Vineyard, and All Kinds of Vegetation.** For catalog and prices write

**Thomas Lewis, 1916 Tenth St., Sacramento, Cal.**


# Placer County Awake

THE editor of the Cultivator met last week with the fruit growers of Placer county, who have awakened to the necessity of bettering fruit marketing conditions. This county has the reputation of producing some of the very finest peaches grown in the world. It is pre-eminently a peach section, although many other varieties of fruit are grown to perfection. During the past season, this fruit proved to be of a lower grade than in preceding years. This, with most unfortunate marketing conditions, combined to give growers a very severe lesson. One cause of the lowering of the grade has been the omission of spraying for the peach worm, resulting in a large amount of wormy fruit. Some of it was culled out, but much went to market. One lot rejected in Seattle was found to contain over fifty per cent of this inferior fruit.

During the meeting the responsibility for shipping this class of fruit was passed back and forth from grower to shipper and from shipper to grower, but there was no effort to sidestep on the question of never allowing the same thing to occur again. Both shippers and growers, and some who are both growers and shippers, were unqualified in their condemnation and in their determination to allow hereafter only a conscientious pack. The only difference of opinion was as to methods. Here, of course, there is opportunity for much diversity of opinion.

This meeting was an adjournment of the former one held at Newcastle, account of which appeared in the Cultivator of October 7th, and was presided over by the same officers, Mr. Jeffrey, Chairman, and J. B. Adams of Newcastle, Secretary. The principal step taken was the appointment of a committee of fifteen composed of eight fruit growers and seven shippers, who were instructed to report at a later meeting to be held probably at Newcastle, with plan of organization and suggestions for standardizing the pack of Placer county peaches. The meeting was principally in the interests of Placer, but representative growers of the Sacramento Valley, including Gen. N. P. Chipman, Frank McKevitt, Senator Bills, J. P. Dargitz, Geo. H. Cutter, and Geo. E. King, were present. It is probable that this effort will lead to an organization far more extensive than a mere county movement. The next meeting of the kind is planned for Lodi, and the movement will probably spread till the whole Sacramento Valey is incorporated in it.

Placer County Berries.


# Eucalyptus

We have a very fine lot of these trees in variety, ready for immediate shipment.

## Orange and Lemon Trees

Our Citrus Trees are of the very best one and two year buds. We claim to have the finest trees on the market for the next season's planting, in any quantity. We are also large growers of

## Palms, Roses, Fruit Trees

and other stock. Call and see our stock or write for our prices.

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**BUY TREES** FRUIT and ORNAMENTAL OF A **RELIABLE FIRM**

We have the most complete Nursery in the . . . .

**WORLD** and the Largest Assortment to choose from. . .

Our Fruit Trees are all budded or grafted from our own tested Orchards. Therefore purchasers are certain to get the varieties they order.

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**CALIFORNIA NURSERY CO.**

600 ACRES ESTABLISHED 1865

**NILES, CALIFORNIA.**

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Fruit Trees

Order now the Trees you want while the assortment is complete. Don't delay.

True to Name

Our stock comprises all profitable commercial varieties of trees and vines—and they are the best that care can produce.

Well Rooted

Write Us Now. Catalog and Planters' Guide free

The Silva-Bergtholdt Co.

140 Orchard St., Newcastle, Cal.

Very Hardy

Oregon Grown Peach Trees

Muirs, Lovells, Phillips, Tuscans, Etc.

Non-Irrigated

One Year Tops budded on Three-Year-Old Roots

"They Can't Help But Grow."

We are Specialists on Northern Grown

Franquette Walnut Trees

Both Grafted and Seedlings of the Vrooman Pure Bred Variety. The Best on Earth.

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Oregon Nursery Company

(Salesmen Needed) Orenco, Ore.

TREES of All Sorts

25 Years Experience in Growing Nursery Stock

1500 acres devoted to the business.

California Horticulture, The Fruit Growers Guide

fully illustrated, describes 2000 different varieties of trees and plants Contains valuable information. Sent postpaid for 25 cents in stamps.

Write us today for quotations on your requirements.

PAID-UP CAPITAL $ 250,000.00

FANCHER CREEK NURSERIES INC

Geo. C. Roeding Pres. & Mgr

Box 12 Fresno, California, USA

Grand Valley, Colo., snips a hundred cars of fruit every week.

The committee appointed is made up of the following gentlemen:

G. Geraldson, Newcastle; L. A. Smith, Newcastle; H. M. Branstetter, Loomis; J. T. Law, Loomis; J. Thompson, Penryn; Robert Kays, Senator Birdsall, Auburn, and John B. Adams, Newcastle, all of whom are growers, and George D. Kellogg, Newcastle; A. Schnabel, Newcastle; George W. Bishel, Newcastle; E. L. Rippey, Loomis; J. Gibson, Penryn; Harry Poulter, Penryn, and J. D. Nagle, Newcastle, shippers.

At one time it looked as if the growers would insist that the entire committee be formed of growers, one or two being so prejudiced against the packers that they wished to have nothing to do with them and insisting that this was a growers' meeting only. Mr. McKevitt, representing the packers, suggested that this would be a proper plan, but the majority of the growers in attendance seemed to feel that this was a matter into which prejudice should not be allowed to enter, and that the brightest minds in both packing and growing interests should unite in studying out a plan which they should mutually undertake. One grower suggested that the committee was altogether too large, especially as to the eight growers, because he felt that anyone who could bring eight growers together on any one thing would be indeed a demigod. He insisted that the grower never appeared to be anxious to better his conditions if uniting with his fellow growers was necessary to accomplish it.

The method which has been followed in the past with poor results, is ranch packing. Mr. Dargitz of Acampo said that there could be no uniformity of pack where the grower, assisted by his family, packed independently. Reasons given for opposing the centralized packing house were the expense of hauling, liability of injury to unpacked fruit, and the fact that the women and children could not help in the work. In answer to these objections, Mr. Dargitz stated that he had packed fruit hauled sixteen miles on springs, that was delivered in excellent condition, and that the packing house gave opportunity to any grower's family to secure employment under competent instruction, enabling them to do better work than was possible when fruit was packed at the ranch home.

The appointment of a horticultural commissioner was also discussed at length. The county has heretofore had no working commission, due to the economical spirit of the supervisors, or rather to their failure to give the fruit growing interest any proportion of the money paid by it into the treasury. This point was made very emphatic by O. A. Bremner who presented a series of figures showing that the amount of taxes levied upon growing trees and vines and other horticultural improvements in the county, was 17.8 per cent of the whole amount, or a total of $7740, while for all the years that this has been maintained, the fruit growers have never received one penny in protection of their industry. It is assumed, however, that the board of supervisors are now awake to the necessity of giving some consideration to the industry and will meet the requests of the growers. Along this line, the following resolution was adopted:

"Resolved, That inasmuch as the last legislature enacted a law permitting boards of school trustees to make requests in advance of each year's tax levy of the board of supervisors for stipulated reasonable sums for the use of such school districts, such sums to be included in the tax levy, which we deem a good law and one conducive to efficiency and a law which would well apply to the needs of the various county horticultural commissioners, this convention would urge upon the next legislature the desirability of enacting similar legislation for the support of the office of county horticultural commissioner."

The resolutions passed by the former meeting at Newcastle, given below, were used as the basis of effort with the county board of supervisors:

"Resolved, That we view with alarm the encroachments of the peach worm

(Continued on Page 448.)

Use Gas in Your Home for Lighting and Cooking

The Superior Generator

is Automatic, Safe, Satisfactory. A Brilliant Light in Every Room. A Clean Fire always ready to cook. Hot Water if you wish. No trouble to operate. Let us tell you about it. Catalogue mailed free on request.

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A complete line of Nursery Stock. Special prices on Peach, Plum and Apricots. It will pay you to let us figure with you before placing your order for Spring planting. All stock guaranteed true to name.

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KIRKMAN NURSERIES

Wholesale growers of true-to-name trees and vines. Kirkman personally attends to the important details of his business; 23 years successful business. Why run the risk of getting untrue trees. Your business solicited.

Main Office, Cor. J and Kern Sts., Fresno, Cal.

CHICO NURSERY CO., Chico, Cal.

We have just what you want to plant this coming season.

APPLES, PEACHES, PEARS, PRUNES, CHERRIES and ALMONDS. Also a good stock of GRAPE VINES, BERRIES, ORNAMENTAL TREES, SHRUBS and ROSES.

Catalog free. CHICO NURSERY COMPANY, Chico, California

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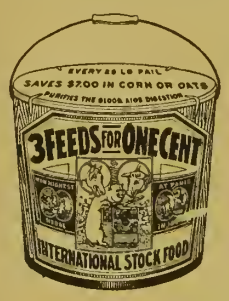
is taking chances with large odds against you. Underestimating the weight of each head by only a few pounds would mean a very large loss within a short time. Can you afford it? Why not be absolutely sure you get full value for your stock by weighing it on your own **Fairbanks Scales.** The reliability of these scales has been established by over eighty years of continuous honest, accurate work in all parts of the world, in every line of industry. These scales are used exclusively by the largest stock yards and packing concerns in the world; the packers can't afford to take chances—can you? Fairbanks scales are the best and they last a life-time.

Cut out complete advertisement and send for illustrated Scale Catalog No. ZD 1034

**Fairbanks, Morse & Co.,** **San Francisco, Los Angeles.**

*Or address the nearest one of our 27 Branch Houses*

## International Stock Food


EVERY 25 LB PAIL
SAVES $2.00 IN CORN OR OATS
PURIFIES THE BLOOD AIDS DIGESTION
3 FEEDS FOR ONE CENT
INTERNATIONAL STOCK FOOD

If you would wish your stock to keep in a good healthy condition feed International Stock Food.

### 3 Feeds for One Cent

It is manufactured by a regular chemist and stock breeder, is guaranteed to be equally good for all kinds of live stock and to contain nothing harmful even if taken into the human system. It not only cures but prevents disease and makes stock fat, sleek and glossy.

Put up in 25c, 50c and $1.00 packages. Also 25-lb. water tight pails for $3.50 each. Send for catalogue and circulars.

## Germain Seed & Plant Co.

**326-330 So. Main St.** **Los Angeles, Cal.**

## Clip Your Horses

with this superb **Stewart No. 1 Ball Bearing Clipping Machine**

The great enclosed gear machine at your dealers all complete, as shown,

only **$8.50**

No machine ever made at any price equals this one. It is the most perfect in every way of all clipping machines on the market.

It turns easier, clips faster and lasts longer. If you have but one or two horses it will pay you to have this splendid machine.

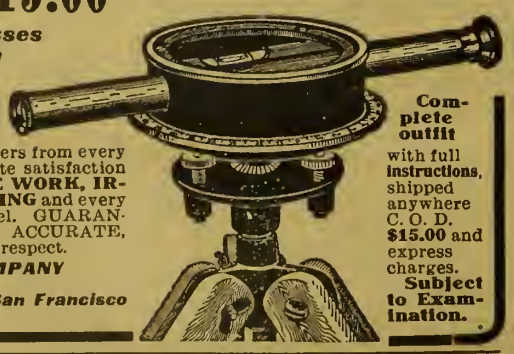
The gears are all cut right out of the solid bar, and all wearing parts are file-hard. It will last a lifetime.

If your dealer hasn't it, write us direct. GET ONE NOW

**Chicago Flexible Shaft Co.** Dept. H, **Chicago**

## BOSTROM'S $15.00 FARM LEVEL

***With Magnifing Glasses in the Telescope***



enables you to read Target at a distance of over 400 yards, therefore the problem of a FARM LEVEL with TELESCOPE at moderate cost has at last been solved. Voluntary letters from every State in the Union show the complete satisfaction it gives for all kinds of **DRAINAGE WORK, IRRIGATION, DITCHING, TERRACING** and every sort of farm work requiring a Level. GUARANTEED to be absolutely SIMPLE, ACCURATE, DURABLE and dependable in every respect.

***PALACE HARDWARE COMPANY***
Coast Agents
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**Complete outfit** with full **instructions**, shipped anywhere C. O. D. **$15.00** and express charges. **Subject to Examination.**

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**Registered A. J. C. C. Jerseys**
St. Lambert and Flying Fox Blood. Margery Golden's Fox heads the Herd. Young stock for sale. Geo. W. MILLER, Prop., R. 3, Modesto, Cal.

**The Whiting Jersey Stock Farm Co.**
Is making the very best strains of blood fresh from the island of Jersey a specialty. **Whiting Jersey Stock Farm Co., Heber, Cal.**


# Live Stock and Dairy

**Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.**

## COW GOSSIP.

**By Mrs. M. E. Sherman.**

THE way that dairymen may make cows profitable seems to have been mapped out carefully, so that now one has only to follow directions to come out ahead. There is a little book by Peck that gives a complete account of Rev. Mr. Dietrich's work in building up a herd and land at the same time. This book may be considered as inspiring to better work every one connected with the land. We need this in California greatly. We are skimming the land of its fertility. There was only a little good land after all in even fertile California and the wheat growers took the heart out of the best of it years ago. The soil needs some fertility added to it. Humus mostly is deficient. Now the cow on the land gives us a way to do this without having to pay out the price of the land for commercial fertilizers. Cover crops and cows are the need of the farmers to increase the fruit crop.

**Babcock Test.**

In the older times the only way the farmer had to find out the profitable cows was by churning the milk separated. I can remember at the first County Fair I ever attended as a very little girl, being fascinated by a comely woman having a series of box churns on one crank to make the butter from cream of each cow in a herd. This was the way the dairyman had to do if he wished to have any knowledge of his work. It was this testing by churn that permitted so many false records in the past, for some genius found out that if he turned warmed water into the churn that the butter would be greatly increased. This butter was padded with water often thirty-five per cent of its weight. The butter was weighed from the churn directly and the records were great. Prof. Babcock invented the testing machine and the mighty records were wiped out at once. Slowly the breeders weeded out their cows until at length the tide turned and a few cows made 20, then 25 pounds of butter in seven days, and then 30 pounds was reached, and now the number of cows is increasing that can make 20 pounds every day.

**First Machine.**

The first Babcock testing machine I ever saw came to the ranch from Chicago. We set it up and tried to run it. We burned the tests black or had them white ash. The trouble was explained to the wholesale drug house in San Francisco and they sent us a specific gravity test, and we had to allow more acid when it was weak or decrease it when too strong. We worked over that tin machine hard. It was a big circular box set up over a high drive wheel that turned by hand. The big wheel would take spells of missing the cogs of the small wheel that rotated the bottles inside the box, and then sometimes the bottles would collide inside and the entire contents spill out. This happened often enough to make it necessary to take a double test of each cow's milk and then arrange them in order so that the two bottles would not come in the machine at the same time.

**Knowledge.**

About this time there came an apple cheeked young man to the ranch. He had been a dairyman's son and had taken a course at the Pennsylvania School. I fancy he was about the only person that had ever run one of these machines. He proved an invaluable assistant for the next few years. He has always been modest about telling of the help he gave me at that time. I am speaking of Henry Saylor who afterwards became State Dairy Chemist. He has returned to his old love, the cows, and started a dairy herd of his own on his own ranch this winter. It is too hard for any one that has owned cows to give up the gentle creatures.

**Community Breeding.**

Farmers do not combine well, more's the pity, for the common herds would be readily improved if the neighbors bought a sire together. Twenty-five dollars apiece from six or eight men would bring a choice young animal from the East to head a herd of at least a hundred animals. When one community had owned the sire as long as possible, he could be exchanged with another set of farmers. It is one of the pitiable wastes to kill off tested sires. When one has shown that he is a good producer he should be retained as long as possible and then passed on to further usefulness, instead of going to the shambles. The calves of the developed sire are stronger than those from immature animals.

**Buttermilk.**

The health fad now runs to consumption of quantities of buttermilk. The wine men are viewing with interest the invasion of butter milk in the high class hotels. The bars also are selling it extensively. At the Waldorf-Astoria it requires one man to carry the buttermilk from the refrigerator to the bar. Another equally famous bar is selling fifty quarts a day. The new Latone buttermilk is very popular. Candy stores and drug stores sell it as well as the bars. The use of milk has increased rapidly of late in Eastern cities, now that the tuberculin scare has become an old cry. The creameries and cheese making plants near by have been closed, as the milk was being used fresh. This same thing has happened in California. In the San Joaquin valley much of the cream goes directly to Los Angeles for use as fresh cream. This in turn brings butter from farther away. The Imperial district has a great dairy future before it in furnishing the whole of Southern California. The lands near the cities of the south are needed for small fruits and vegetables, while the orange and fruit land is too valuable for ordinary dairymen to own.—M. E. Sherman.

## EDUCATIONAL BUTTER SCORING CONTEST.

The results from scoring the fifth entry to the California Educational Butter Scoring Contest are given below. All entries arrived on time and in good condition. It is especially gratifying to note the care taken in packing most entries to insure arrival in best condition. One entry was carefully packed in ice and paper, and the score received speaks well for the ability of the buttermaker who sent it. With two exceptions, all the butter was made from gathered cream. The United Creameries receive about two-thirds whole milk, while the Pioneer receives all whole milk.

The scores are as follows:

| Name of Creamery | Address | Score. |
|---|---|---|
| Golden Creamery, | Etna Mills | 96 |
| San Pasqual Cream., | Escondido | 94 |
| Salinas Creamery, | Salinas | 93 |
| United Creameries, | Arcata | 92 |
| Hicks Valley Cream., | Hicks Val. | 92 |
| Crystal C. & B. Co., | Sacramento | 91½ |
| Gridley Creamery, | Gridley | 91½ |
| Rose City Cream., | Chico | 91 |
| Ceres Creamery, | Ceres | 90½ |
| Pioneer Creamery, | Ferndale | 90½ |
| Suisun Creamery, | Suisun | 90 |
| Woodland Creamery, | Woodland | 90 |

As a whole, the butter submitted averaged low in flavor, but other defects were not especially noticeable save two or three entries that showed a weak body and one or two that gave a milky brine, indicating incomplete removal of buttermilk in washing. Most creameries at this season are bothered with small uantities of inferior cream so that low quality


**Cream Separators, all sizes, and prices. O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

**Anthrax Cure, Milk Fever Outfits See O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

# REPLACED

A great many disk-filled and other common, complicated cream separators are replaced every year by simple, sanitary Sharples Dairy Tubulars.

Women prefer Tubulars because Tubulars are easiest to clean. Men prefer Tubulars because Tubulars wear a lifetime, run easiest, skim cleanest, skim fastest.

Tubulars probably replace more common separators every year than any other maker sells. Tubulars are the only modern separator—The World's Best. World's largest separator factory. Oldest separator manufacturing concern in America. Branch factories in Canada and Germany. Sales easily exceed most, if not all, others combined.

Dairy Tubular

Write for Catalog No. 260

Sharples 29 Yrs

THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
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# CREAMERY SUPPLIES

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| Cream Separators | Milk Cans |
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Anthrax
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# VACCINES

Are given the preference by 80% of California Stockmen because they give better results than others do.

Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg.

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# Seldom See

a big knee like this, but your horse may have a bunch or bruise on his Ankle, Hock, Stifle, Knee or Throat.

ABSORBINE

will clean them off without laying the horse up. No blister, no hair gone. $2.00 per bottle, deliv'd. Book 8 D free.

ABSORBINE, JR., for mankind, $1. Removes Painful Swellings, Enlarged Glands, Goitre, Wens, Bruises, Varicose Veins, Varicosities, Old Sores. Allays Pain. Book free.

W. F. YOUNG, P. D. F., 244 Temple St., Springfield, Mass.

For Sale by Langley & Michaels, San Francisco, Cal.; Woodward, Clark & Co., Portland, Ore.; F. W. Braun Co., Los Angeles, Cal.; Western Wholesale Drug Co., Los Angeles, Cal.; Kirk, Geary & Co., Sacramento, Cal.; Pacific Drug Co., Seattle, Wash.; Spokane Drug Co., Spokane, Wash.

Geo. C. Roeding, Fresno, Cal., breeder of Thoroughbred Holstein Bulls and Heifers Thoroughbred Berkshire Boars and Sows


might reasonably be expected. Seventy per cent of the entries were made by using starter. The amount used varied from 10 per cent. to 40 per cent In only two instances was the cream pasteurized.

The entry from Golden Creamery, which received a score of 96, was an excellent piece of butter in every regard. It was made from gathered cream one day old and containing 36 per cent butter fat. Twenty per cent of starter was added. It was then held for four hours at 60 degrees F. cooled to 50 degrees F. and churned. The buttermilk was 54 degrees F. and the wash water 56 degrees F. Salt was added at the rate of three-quarters ounce to 100 pounds of butter.

The last entry for the current year will be called for the last of November, and the scoring will take place at the University Farm in the presence of the Short Course Creamery students. It is urged that as many butter makers as possible accompany their entry to the contest. Special attractions will be offered. The November entries will decide the winner of the prize cups to be awarded on the basis of the high est and second highest average of the six contests. As it now stands, there is only .7 of a point difference in the average scores of two of the regular contestants, each of which has received the highest score twice. In view of this fact, there is some speculation as to who will gain first place for the year. Notice of the exact date will be made later.—Herbert A. Hopper.

### THE MULE-FOOT HOG IN IDAHO.

The mule-foot hog is unquestionably the animal for the southern country. This is the first time that this breed has ever been brought to the intermountain region, and I am satisfied that it will prove to be one of profit for the farmers. The origin of the mule foot is rather obscure and its history hazy. We have learned, however, that it came from the Eastern coast of Africa and the South Sea Islands. In character it is, in the vernacular of the hog man, about midway between a bacon and a lard hog. Its hoofs are solid like those of the mule and it thereby gets its name.

While this hog fattens and thrives fully as well on alfalfa, peas and small grains as do the other kinds, if not better, it has a distinct advantage over the others, in that it is not susceptible and, in fact, is immune to all hog diseases, particularly cholera. This disease is the one which bothers all hog raisers and kills off thousands of hogs every year. A thoroughbred mule-foot hog, such as the kind I have, has never been known to have hog cholera. I have a number of this kind and I am certain that its fine points will appeal to the people in this country and they will become active in taking up this industry.—Spokane Review.

## Veterinary

### Rubs Tail.

What is remedy for young horse that backs up to barn or fence and rubs violently from side to side?—E. D., Hemet.

Rub the dock with kerosene once daily until it is tender to the touch. Repeat the first time you catch him rubbing again.—R. T. W.


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See "Cow Talks" in another column.


# NATIONAL DAIRY SHOW
# De Laval
# BUTTER AWARD TRIUMPH AS USUAL

The great NATIONAL DAIRY SHOW was held at Milwaukee, Wis., October 15-24, and in keeping with the invariable result since "ALPHA-DISC" DE LAVAL CREAM SEPARATORS went into use all the HIGHEST BUTTER and CREAM awards went to DE LAVAL users, in this latest representative contest, which included the exhibits of nearly one thousand of the best butter and cream producers throughout the country.

The three highest awards in the CREAMERY BUTTER class—all to DE LAVAL users—were as follows:

| | |
|---|---|
| A. J. Anderson, Otisco, Minn., | Score 97 |
| Thor. Moe, Winthrop, Minn., | Score 96½ |
| A. L. Oestrich, Watertown, Wisc., | Score 96 |

The highest award on DAIRY BUTTER was to P. Daingaard, Camp Point, Ill.—Score 94½—a DE LAVAL user.

The highest award in the CREAMERY PATRONS contest was to G. Van B. Roberts, Highland, N. Y.—Score 99— a DE LAVAL user.

The highest award in thhe CREAMERY PATRONS contest for hand separator cream was to G. B. Fisher, Viroqua, Wis. —Score 93½—a DE LAVAL user.

Full details of all the entries and scores have not yet been made public, but there is no doubt that the vast majority of all exhibits scoring 90 and above will prove to have been DE LAVAL made, as heretofore.

Incomplete reports have been received of highest butter awards at the various STATE FAIRS this year, but practically all of them have been to DE LAVAL users, including particularly New York, Indiana, Michigan, Missouri, North Dakota and South Dakota.

As has been said before, the separator does not of itself insure the making of the best butter, but the superior mechanical and sanitary bowl construction and low speed of the DE LAVAL separator indisputably enable the production of better cream and better butter under the same conditions than can possibly be made in any other way.

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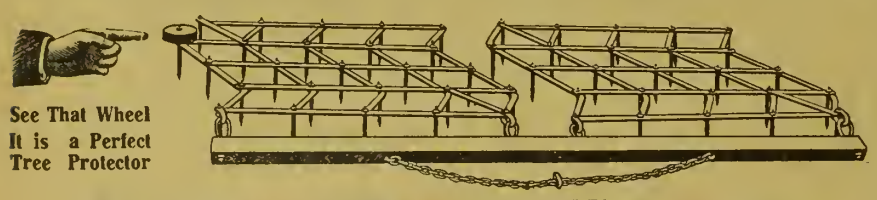

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# Small Fruits and Vegetables

## MODERN INTENSIVE MARKET-GARDEN.

THE first thing to consider is the location. This should not be over five miles, as only one trip a day can be made to market; whereas, if less, two trips can easily be made. Thus it would be cheaper to pay $500 per acre for a place within the above limit than to pay $100 per acre for a location farther out. The saving in teaming and time of a man would more than pay the difference in interest and taxes.

Another important consideration in the selection of a location is the soil. This should be of a sandy nature, with a sub-soil of yellow loam over sand. This character of soil is especially adapted to quick-growing crops. If there is a clay subsoil, the land is likely to be cold and will not drain quickly enough to grow early crops in either a wet or a dry season. If possible the land should have a southern slope, thus assuring earliness of crops and better adaptability to irrigation.

The location being chosen, the next thing is the necessary equipment to do a paying business. This article will consider a place of ten acres to cost $5,000 for the land and $5,000 more for the buildings, including house, stable and wash-shed. Then an additional $5,000 is required for three greenhouses, each to be 200 feet long and 30 feet wide. It would be impracticable to have less than three greenhouses because of the different temperatures required by the different crops. These crops may be limited to five, namely cucumbers, radishes, lettuce, parsely and tomatoes. Taking into consideration the varied conditions that these crops require, it can readily be seen how little could be done with less glass area.

In addition to the houses, more or less hotbed sash will be required in the spring. The grower will need at least 400 sashes, at a cost of $2.50 each. Then the fences, mats, planks and shutters will cost about $2.50 for every sash, making a total of $2,000. Under these sashes are grown many crops, and they are especially valuable for the hardening-off of plants which have been started in the houses, transplanted to these beds, and later to be planted in the field. It would be impossible to do this work in the houses; thus it is seen what an important part the sashes take in the growing of many crops.—From Cyclopedia of American Agriculture. Reproduced by permission of The Macmillan Company, New York.

The dewberry may be propagated by layering the tips or from root cuttings. In fact the plants are so easily secured that one may generally get them from his neighbors' plantation more easily than from a nurseryman. If plants are required by the wholesale a good plan is to plow a furrow along the row, place the tips of the runners in this and turn a light furrow back upon them; the tips must be actually covered. This work should be done before the opening of the picking season in most altitudes, and the plants will be ready for next spring's setting. Deep cultivation that will disturb or break large roots will cause many new plants to start. If an old bed is to be discarded, a good crop of plants may be secured by thoroughly plowing and working down the bed in the spring allowing the young plants to spring up from the broken roots the following summer. Root-cuttings, from roots the size of a lead pencil, may be taken in the fall, stored in moist sand over winter and planted out in nursery rows the following spring. If these root-cuttings are well cared for during the winter and planted three inches deep in a good soil, kept well moistened, a fair per cent will produce plants. Root-cuttings taken in the spring and planted in the same way will also give fair results. The dewberry does not sucker as freely as the blackberry, neither does it root as readily from root-cuttings.

Fruit and vegetables require plenty of moisture for maturing with size and high flavor. When the weather is dry keep the cultivator going between the rows, repeating every three or four days. Use a cultivator with many small shovels and run the shovels only two or three inches deep. Cultivate the plants when they are young to make them grow rapidly and when they are older to furnish moisture for good maturity.

All small fruits require much moisture when the fruit is ripening. If surface cultivation for conserving soil moisture or irrigation cannot be practiced, mulching with straw or other litter will hold the moisture in the soil and help the fruit to ripen and grow to large size. Blackberries, ripening late in the season, often suffer and the fruit dries up on the vines for lack of moisture. Keeping the weeds down in the blackberry patch and mulching between rows and among plants with an old straw stack or spoiled hay will help wonderfully.


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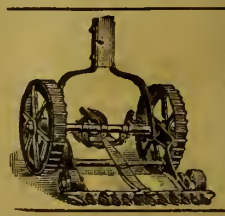

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# Ornamental

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ONE of the first essentials in house plant culture is correct potting of plants. As preparation and fertilization of the garden soil are of prime importance to a successful garden, so is potting to the success of indoor plants.

The soil for potted plants must be the very best and richest, for the root of the potted plant must draw its foods from a very limited quantity. The soil must not only be fertile, but it must be of good physical nature, relatively light in most cases, friable, and retentive of moisture, but it must be capable of parting with it readily so that the necessary air may enter for feeding the roots. For the same reason, the drainage must be ample, and to this end, gravel or broken crockery are placed in the bottom of the pot, and some coarse sand is mixed with the soil.

Good potting soil must contain humus, or decayed vegetable matter. The best for this purpose can be made by piling up sods and allowing them to decay. Where this is not practicable, secure soil for potting along an old fence row where the sod has more or less decayed and left loose, rich, friable soil. This is an easy matter, as at various points along almost any fence row bare spaces can be found where the grass has died and the sod rotted. To this loose soil may be added, some fertile garden soil, and a small proportion of sand, unless the oil already contains sand.

Fill the pot to about half full of drainage material and soil, then set the roots of the plant to be potted upon this, filling the very finest of soil about the roots and pressing the soil down with the thumbs when the pot is full. Give the pot a thorough soaking with water and set away in a moderately dark and cool place for four or five days to give a chance for the new roots to begin to grow. Bring the new potted plant into direct sunlight gradually, and water only after the soil has become thoroughly dry. Never water in small amounts and often, but give a good soaking with water and let it go till it really needs it again. Never keep the soil continually soaked with water, as that shuts out air from the roots of the plant.—Journal of Agriculture.

### NATURAL PARKS.

Our lesser municipalities, still more than our large cities, must look for lands of low cost when contemplating the acquisition of park lands. By a strange provision of nature those lands which by reason of rugged topography or marshy soils are unfitted for agricultural purposes are the very best for desirable landscape effects and may, by a judicious selection of plants be converted into quiet woodland scenes.

How often do we find, on the outskirts of a town or city a marshy piece of ground containing some water during part or all of the year, for which no use can be found aside from that of a refuse dump. Almost invariably there are some trees and shrubs on such tracts which could form a pleasing nucleus for a park plantation. These tule-bordered pools may be made a little more secure against the escape of water, the marshy shores dug out a little to make dryer paths along the pond margin, and the park is under way and usable. On hills with precipitous sides young peppers and drought-resistant eucalypts and other trees may be planted, watered for at least one season, and shade trees will soon result. The leaders or terminal growth of the young eucalypts should be cut off at the end of the first season's growth. This will leave less top for the roots to support and cause the young tree to branch, thereby producing an umbrageous shape so necessary for shade.—L. A. Times.

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PUBLISHED EVERY THURSDAY BY THE

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115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, November 4, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

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## Time to Clean Up.

IT IS SAID that first impressions are lasting; we believe that last impressions are nearly as permanent. In either case, we do not think the town of Davis appreciates its opportunity of making a good impression on visitors to the state farm. The first impression we received a year ago when walking down the main approach to the farm was that a most unfortunate selection of location had been made. This impression was in no way changed this year. We found the same dilapidated, moss grown fences held up by a few additional props; the same weeds, except where broken down by the pigs roaming along the streets; the same pigsties with the same offensive odors; and the same cow yards with the same manure heaps a little nearer the eaves of the sheds against which they were piled; the same breeding ground for untold millions of files.

The boys who go there now may have rooms in the dormitory which is clean and attractive. For board many of them, 14 to 16 years of age, go to the hotel, the most prominent room of which is the bar, and along the main street are a number of other saloons. The Cultivator is not discussing the saloon question, for that is not a cultural topic. However, it is universally demanded that our youth be educated in a clean moral atmosphere. The men who have sent their sons to the two great institutions at Berkeley and Stanford have insisted that they have clean surroundings, and the saloon has been banished. Even the state penal institution at San Quentin and the state school at Whittier permit no saloons within a mile and a half of their grounds. We believe the farmers of the state have an equal right to demand good surroundings for their sons. Davis has taken up this matter, and a majority of the voters have decided to retain the saloons. If these conditions still obtain, and there is no other way of securing freedom from such influences, many parents will consider long before taking the responsibility of sending their sons away from home into such an environment.

The lessons which the boy learns are not wholly from books handed him by his instructor. His environment has much to do with his upbuilding and his desire to live up to the best there is in him. Had this farm been located in many towns of California, the first lumber would hardly have been hauled for the buildings before some enterprising real estate man would have had control of the entire row of lots fronting on the approach to the farm, and instead of pigsties and corrals, it would have shown tasteful bungalows set in lawns, and the other factors which we have mentioned as detrimental to the highest development of the boy's life would have been eliminated. The Cultivator has no desire to say what will injure any community in the state. We do not believe anything we can say could injure Davis as much as its general appearance. When these conditions are corrected, we believe the young men of the state can go there and be greatly benefited by California's Agricultural College.

## A Fine Product.

MR. KING remarked at the Loomis meeting last week that from 52 peach trees he had marketed five and one-half tons of peaches, and these were of such quality that he had only 300 pounds of culls in the lot, the large percentage of them running 84-to-the-box size. It costs no more to produce such high-grade fruit, and the returns are so vastly superior we cannot see why more growers do not follow the examples of such producers. As one speaker at the same meeting said, it is better to produce two boxes of high grade 84-to-the-box size of peaches than it is to produce four boxes of only medium fruit. It costs twenty-five cents to the box to grow and pack the fruit. If it sells for one dollar, there is a fine profit left for the grower, but if, instead of producing and selling two boxes for two dollars, the grower produces four boxes for two dollars, his profit is more than cut in two. If again, his production reaches eight boxes, with the same expenditure of energy on the part of the tree, the fruit will be of such inferior size that it will not bring more than two bits per box, and the fruit grower simply gets the money back that he spent in producing the inferior fruit.

The satisfaction one takes in producing a fine article should be sufficient to induce him to bring up the grade of his fruit, but satisfaction does not go far in bringing to the farm things which are desired, so much as increased profits, and so long as increased profits can be made with the more satisfactory appearance, it seems to us that every famer should seek to be in the two-box class of peach producers.

## Pedigreed Scrubs.

Speaking of judging and of the breeding of dairy animals, at Davis last week, Mr. Hawk said that it was necessary, if one wished a producing strain of dairy cattle, to throw out "pedigreed scrubs." The time is past when the simple statement that a cow has a pedigree or is capable of registry, is sufficient to give glory and sale at a long price. It is now recognized that there are scrubs subject to registry, as well as in the barn yards which have never seen a registered animal. That like begets like, is one of the principles of breeding, but there are times when the defects of generations back crop out, and the son or daughter of a big producer may prove of almost no value. Every producer should watch for this class of animals and eradicate them from his herd.

## Politics vs. Fruit Growing.

LOS ANGELES COUNTY fruit growers are indignant. An effort has been made to secure an efficient horticultural commissioner who would appoint deputies qualified to serve the growers because of their knowledge of the fruit business and general fitness for the office. The property interests represented by the committee which appealed for the appointment of Mr. Beemis instead of Mr. Dingle, exceeded twenty millions of dollars. The growers stood in solid mass in a request that Mr. Ervin Dingle should not be made a deputy, for he did his best to prevent the passage of a horticultural law demanded by the growers of the last legislature. But through political influences, it is claimed, Mr. Meserve, who was appointed commissioner, has named Dingle as a deputy. This action has placed Mr. Meserve in a very embarassing position before those whom he is to serve.

## Tumble Down Buildings.

JUDGE SHIELDS remarked in his address to the students at Davis last week, "As long as the barn is characterized by tumbledown buildings, it and its products will be discredited." Prof. Major in addressing the same body on another day, remarked that the best advertisement which any livestock producer could have, next to producing highbred animals, was the condition of the barns and surroundings. Illy kept yards, fences, and buildings are generally taken as an indication of carelessness, and carclessness in breeding is the last thing which can be tolerated by the man who desires thoroughbred stock. There is a whole sermon in these remarks of Judge Shields and Prof. Major.

## Instructive Week at the State Farm

(Continued from Page 435.)

word and example giving the positive side. "Agriculture is one of the most promising industries in which a young man can engage, because the young men have gone off into other lines of work." The speaker referred to one lesson of his boyhood; he found that he often caught the most and the biggest fish in the hole the other boys shunned. Another instance in illustration of the same fact was this: The new Hotel Sacramento recently inserted two small advertisements in the same paper, one calling for a stenographer, the other for poultry supplies. There were over 1000 responses to the stenographer advertisement, and none to the poultry. Certainly the poultry business is not over crowded.

"Get together and form an alliance with your neighbors; it is essential to your success. Don't hang back when a forward movement is started. Your zeal for your neighborhood organization should be similar to your zeal for your party."

Judge Shields appealed especially to the boys to distinguish themselves. Each one, he said, should be above the average. "Listen to conversations, lift yourself; improve your carriage a little bit; improve your diction. These things will lift you in the eyes of others; they will distinguish you. The common language of the day is so tinged with slang, that he who speaks correctly attracts instant attention when he speaks in any company of people."

"Learn to use your library. Learn what the U. S. Department of Agriculture has that will benefit you; learn what your own State University publishes. In every way seek for your own upbuilding. Learn that farming is an intellectual calling. As you learn these things, you may feel lost in the immensity of the subject and in its complexity. Bacon says, 'Reading makes the full man; writing the exact man; speaking the ready man.' I would have you write. Nothing improves you more than writing down your own thoughts. Then you learn what you do not know." As a homely illustration of the benefit of writing, Judge Shields suggested that if a boy should start out to write an essay on the building of a pig pen, it would lead to almost untold knowledge regarding pigs and their habits, amount of space required for an animal, and as he continued his writing, he would find himself looking for all kinds of facts regarding pig husbandry. Such a subject, so treated, will amply qualify any student to receive his college degree.

"Avoid the poison of luxury. Let every one do his part. Be above the average. Work for the supremacy of Agriculture. Learn the delights of your calling."

# Agricultural News Notes of the Pacific Coast

## Northern California

Supervisors of Yuba county are discussing ways and means of road improvement.

Rice production in Butte county has reached the stage where it is almost assured that a regular industry will result.

Steps are being taken at Paradise, Butte county, to form a local organization to affiliate with the California Fruit Exchange.

Paradise, Butte county, recently observed a Fruit and Flower Festival which drew many outsiders to the little mountain town.

It is reported that the orange crop of Oroville orchards will this year exceed any former crop. The estimate is 400 cars from Butte county.

The state engineer has reported that it will be necessary to widen and straighten the channel of portions of the Feather River, especially near Biggs and Oroville.

Sutter county growers are realizing good returns from the first carloads of seedless raisins shipped east, prices ranging from five and one-half to seven cents per pound.

The bean harvest is in full blast in Yolo county. The yield will be from fifteen to twenty sacks per acre. The sacks average 90 pounds and $3.35 is offered with conditions pointing to better price.

J. C. Wilson of the land department of the Hamilton Sugar Beet Factory, is interesting the farmers of Yuba county in the beet industry, it having been proven that the soil is well adapted for that vegetable.

The Shasta county farmers association and the Mountain Copper Co. have settled the details of minimizing the smoke nuisance, and the company is preparing to resume operations at its Keswick plant.

Many tons of tomatoes have spoiled in Ukiah on account of the cannery not being operated this year. The growers were offered seven dollars a ton for their product, but concluded that this would not pay for picking and freight.

The Sacramento Bee says that the largest shipment of hay ever made from the northern part of the state was consigned by farmer Bailey of Madeline, Lassen county, to the Philippine Islands. It filled 150 freight cars. This speaks well for Lassen county.

The Placer County Farmers Union has elected the following officers: Lewis A. Smith, of Long Valley, President; John Clarke, of Rock Creek, 1st vice-president; H. M. Branstetter, Loomis, 2nd vice-president; A. M. Vivla, of Edgewood, recording secretary; H. G. Gage, corresponding secretary and treasurer.

A grain grower at Arcata, Humboldt county, has returned from a trip over Oregon and Washington where he purchased some 40 tons of seed oats of Imperial Gray variety. It is thought these oats will produce in Humboldt county from 75 to 90 bushels per acre. This variety was introduced into Alberta, Can., from Australia two years ago.

## Central California

Fresno county held her third annual fair at Fresno last week.

The first car of oranges from Porterville was shipped October 20th.

A number of German colonists recently located in Kern county.

Kerman reports 65 bushels of sweet potatoes on an eighth of an acre.

The Tulare county citrus fair will be held this year at Dinuba about the first of December.

The California Dried Fruit Agency has procured the lease of the Chaddock packinghouse at Fowler.

The Loma Prieta Lumber Co. is planting 25,000 eucalyptus trees around its old mill site back of Aptos.

Tulare county now has a bounty of three cents each for squirrel tails, in effect until the last day of January, 1910.

Tulare county will offer from December 1st to the last day of February a bounty of two dollars for coyote skins.

Sanger orange growers contemplate the placing of artistic placards regarding Sanger oranges in each box shipped from that section.

The orange crop of the Porterville section is running to large sizes, nearly all of the pack thus far being in the neighborhood of 126.

Offerings of California Bellefleurs in New Orleans have been heavier the present year that any other season on account of the quality.

Watsonville claims to have a new variety of apple somewhat similar in appearance to the Winesap, but greatly superior in quality. It gives promise of a great future.

The people of Oakdale, Stanislaus county, have voted for the formation of an irrigation district under the Wright law. The new district will comprise about 60,000 acres.

The state convention of the California division Farmers Educational and Co-operative Union will be held at Fresno, Nov. 8th. The permanent office of the union is 1151 J. St., Fresno.

Five hundred carloads of sugar beets have been shipped from Kings City and Elsa during the months of September and October. Last year the total crop amounted only to 100 carloads.

Reports from the Spreckels sugar factory are to the effect that beets are coming in so rapidly that it is almost impossible to handle them. The season's run bids fair to be one of the most prosperous for years.

The Fresno county exhibit at the Seattle fair has been secured by the Union Pacific Railroad and they will use it in a campaign of advertising through the Eastern states, which will be a mighty good advertising card for Fresno county and California.

In spite of the low price of wine grapes this year, large shipments have been made from Turlock since the season opened. The average price paid is $7.50 per ton, and it is estimated that a total of over 200 tons has been shipped during the season.

## Southern California

A carload of hogs was shipped from the Imperial Valley to El Paso last week.

Cabbage growers of the Fullerton district are planning to plant a big crop this season.

The new crop of walnuts is of exceptionally fine quality though somewhat lighter than anticipated.

Our Imperial county exchanges are enthusiastically booming the cotton producing possibilities of their locality.

It is said that the acreage of barley planted in the Imperial Valley this year is equal to that of any two previous years.

The city trustees of the city of Colton are planning to set out a water bearing tract of twelve acres to eucalyptus trees.

The Anaheim Chamber of Commerce have passed resolutions to aid any packing house opened and maintained in that city.

A few weeks ago local buyers of Fullerton were paying $20 per ton for tomatoes, later $25 and now the offer is $30 per ton.

Owing to the olive crop being a little short, the price in San Bernardino county is good and olive orchards are proving very profitable.

The Associated Chambers of Commerce of Orange county are opposed to any encouragement to Japanese immigration by the sending of Orange county literature to the Orient.

The horticultural commissioner of Imperial county has offered cash prizes for the first, second and third best collections of insects gathered in Imperial county before December 1st.

As the season nears its close, it is evident the 40,000 car shipment of oranges and lemons which had been predicted, will not be reached, but it will be near the 38,000 mark, and will run to 32,000 cars of oranges alone.

The past six weeks a hundred or more people have been gathering and packing about 200 carloads of apples in the Yucaipe Valley, San Bernardino county. The crop this year was larger than ever before, and the price better.

Walnuts and celery will net the growers good returns from the Fullerton district this season. Shipments of celery have commenced, and it is estimated that there will be from 1800 to 2000 cars from Orange county and south of Los Angeles.

The county meeting of the farmers union to elect county officers was held at Coachella last week. Officers elected to serve until January are: George I. Martin, president; Geo. B. Royce, vice-president, Wm. T. Crawford, secretary and treasurer.

An acre of ground planted to cotton on the Wilsie ranch west of El Centro, was carefully measured and then picked for the first time, the cotton being taken to the gin and weighed. The total yield, including seed, was estimated at $115 per acre. A liberal allowance of forty dollars an acre is allowed for expenses, leaving a net profit of $75.

## The Coast

The reclamation service has issued a booklet advertising the Yuma Project.

Oregon apple growers report the biggest returns ever received for apples.

The Grant's Pass country in southern Oregon claims it will be the greatest Tokay country.

The first state road in Washington was recently opened with a barbecue and picnic at Washougal.

The Sulphur Springs Valley, Arizona, ranchers report the biggest crop of hay in twelve years.

Secretary Ballinger recently investigated the Arizona lands below the great Laguna dam near Yuma.

The State Land Board of Oregon has decided to increase the price of indemnity selection land from $8.75 to $10.00.

Rogue River berry growers have suffered greatly from lack of water and are now contemplating extensive improvements in irrigation systems.

A potato story from Washington is to the effect that a man dug from one hill of Early Rose variety 62 potatoes, the fifteen largest weighing 25 pounds.

The Salt River Valley, Arizona, people are much encouraged since the visit of Secretary Ballinger. Possibilities of this great valley are wonderful.

The U. S. Civil Service Commission held examinations at various points in Arizona Monday and Tuesday for applicants for positions in national forest work.

The Interior Department announces the opening of the Yuma Indian Reservation. Registration may begin on January 5th and the place of registration will be Yuma.

The cattle ranges in Arizona it is said were never better, and the cattle are in excellent condition. Cattlemen expect better prices next spring than for some years past.

The Grand Junction, Colorado, schools will be dismissed and the children given a vacation of two weeks to help harvest the fruit crop claimed to be worth $1,500,000.

Apples grown in the Wenatchee Valley, Washington, on land where fruit experts doubted their successful growth, are now being marketed at the rate of ten carloads a day.

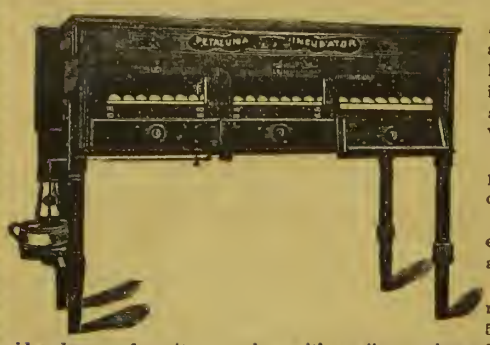
High price of feed is proving discouraging to sheep owners, and while sheep are coming out of the summer range fat and healthy, herders at Pendleton, Oregon, are selling rather than carry through the winter.

The Oregon Agricultural College and Experimental Station is sending a farm demonstration train over the O. R. & N. line, which will give practical lessons in farming pursuits by a competent staff of instructors.

The growth of the apple industry of Oregon is indicated by apple fairs, one at Albany and one at Hood River, during October; the National Show to be held at Spokane November 15th, and the State meeting at Portland, commencing December 7th.

# Petaluma Incubators and Brooders

***Awarded GRAND PRIZE at Alaska-Yukon-Pacific Exposition, Seattle, Wash.; Two First Prizes and Silver Medal at the late California State Fair***



***Petaluma Poultrymen*** in accordance with their aim of attaining the highest degree of efficiency have steadily selected ***Petaluma Incubators*** and ***Brooders***—the Standard of the World.

We have equipped all the big poultry plants and have several contracts to complete before January 1st, 1910.

One firm of poultrymen has 47 504-egg Petaluma Incubators giving a capacity of 24,000 eggs at one time.

We also have contracts to equip a number of plants with from 10 to 20 504-egg ***Petaluma Incubators,*** besides dozens of poultry ranches with smaller numbers of machines.

***Winners of More Prizes Awarded by World's Fair Judges Than Any Other Make***

We have stated before and we ***again*** state that more Petaluma Incubators and Brooders are used than all other makes combined in Petaluma and all that great section of the country west of the Rocky Mountains, which is more than one-third of the entire United States, and the Petaluma is fast reaching a similar position among Eastern poultrymen. As rapidly as its merits become known does it supplant all other kinds.

## Midland Poultry Feed

Is the best ground mixed feed and hundreds of the successful chicken raisers use no other. Ask for it and take no other.

## Petaluma Incubator Company

**Petaluma, Cal.** **Indianapolis, Ind.**

Our General Agents for Incubators and Brooders and Midland Poultry Food:
**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**

# West Coast Egg Food

***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90, 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

## West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

# STANDARD EGG FOOD

The kind that makes hens lay when other foods fail.

**90 Lb. Sack $2.35**

**Acme Roup Cure is Guaranteed. 50c Postpaid.**

**HENRY ALBERS CO., 845** S. Spring St. Los Angeles

## MRS. C. D. HUBBARD'S WHITE WYANDOTTES

Eggs for hatching September 1st '09. Write for circular.

BOX 60, ROUTE NO. 1 SAN FERNANDO CAL


# Profit in the Poultry Yard

We solicit short articles of a practical nature from the farmer and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

## FATTENING THE THANKSGIVING TURKEY.

By Mrs. Frank Metcalf.

AND now the November days are come, and one smacks one's lips in anticipation of the annual feast of good things, of which the lordly turkey is the center of attraction. At this time the turkeys should have large frames upon which to build the delicious flesh, should be healthy from as large range as we can give them, ready for the last fattening process, and perfectly free from lice.

The digestion of a turkey is the most delicate of any domestic animal or fowl, so we must not overdo the fattening, and too long a time must not be given to the finishing up process, lest we lose more than we gain. As the nights grow cooler, feed more and more grain, and now is the time to give corn. Old corn is said to be best for fattening turkeys, but if this is not to be had, feed new corn that is matured enough to shell. For the quickest results and the tenderest flesh, boil the corn all day (a fireless cooker will come into play here) and feed warm, but not hot, all they will eat at night, and the quantity will surprise you. This boiled corn is the most easily digested food you can give them at night, and they will be ready for a good breakfast early next morning. This breakfast may consist of boiled carrots, potatoes or other vegetables stiffened with bran and corn meal, a food of which they are extremely fond, and mixed grains, wheat, oats and barley( rolled) where they may get it during the day. Give them the range to which they are accustomed, as turkeys shut up will lose more from fretting than you can put on by extra feeding, so do not try to confine them in the hope of hastening the fattening. Stale bread soaked in milk may be given for the last few days, all they will eat, if a particularly fine flavor is desired, but never neglect the warm boiled corn at night.

Two weeks of this stuffing if very thin, ten days if in good condition, should make a plump, tender and delicious carcass fit for the table of the most deserving consumer who is, when all is said and done, the patient woman who raises them.—Mrs. Frank Metcalf.

## POULTRY QUERIES.

### Treatment for Colds.

Several of my turkeys, nearly five months old, have swelling under one or both eyes, close to the beak, and eyes water. They seem hearty and well otherwise. They were all perfectly healthy, with wide, dry range all summer until this swelling occurred, which was soon after a rain. During the rainy night the turkeys sat on a pole, unsheltered. Did this have anything to do with the trouble, or is it some contagious disease? What can I do for it?—Subscriber, Lindsay.

Your turkeys have taken cold and should have three drops of the oil of eucalyptus upon a small lump of sugar. Wash the heads and eyes well and dry thoroughly, then apply camphorated lard, or carbolic salve to the affected places. Repeat the oil of eucalyptus night and morning until entirely cured.—Mrs. Metcalf.

### Liver Trouble.

Can you tell me what to do for hens that lose the use of their legs, refuse to eat, and die within four or five days?—E. E. C., Alpaugh.

Without a complete description of surroundings and food supplied, it is difficult to answer, but I should say those hens had liver complaint, from too much starch in their ration or too much condimental food. This will happen to hens that are forced for egg-production, and the cure would be a liver pill, and a light diet for some time. Often a dose of castor oil would benefit, but it is difficult to administer, unless one drops it down the throat carefully and as a teaspoonful should be given, this is rather tedious. Over-fat hens are sometimes subject to liver trouble, and die of apoplexy very suddenly. A scratch shed, where all grain must be exercised for is best, but if not available, dig up the ground and bury the grain there, thus making them work for a living.—Mrs. F. M.

### Colds.

What is the trouble with a chicken when he rattles in his throat, discharges from his nose and breath is very foul? What remedy would you recommend?—M. S., Vacaville.

Your bird is suffering from a bad cold which may develop into roup. Indeed the foul breath is almost a symptom that roup has already started. Take him from the rest of the flock, and do not allow him to drink from the same vessels with the well birds. There are many roup cures advertised in our pages that will do the work well, if used according to directions, but three drops of oil of eucalyptus on a lump of sugar twice a day is excellent. Another tried and true remedy is dipping the head twice a day in a 2 per cent solution of permanganate of potash until the bird strangles, which will cause it to clear the bronchial passages. Also put a few drops of the following mixture over his back, between the wings (which is directly over his lungs); oil of eucalyptus, one part; sweet oil, two parts; shake well. Gently massage the nostrils, squeezing out the air passages as much as possible, then, with a syringe inject a few drops of the mixed oils.—Mrs. F. M.

## DECAY OF EGGS.

In a bulletin issued by the Connecticut Experiment Station is an exhaustive treatment of bacteria in eggs and causes of decay. As is shown by the following quotation, this may at times be caused by the condition of the fowl at time the egg is laid.

Dissections of hens were made by the author and the ovary and oviduct were examined. "Bacteria were present in the oviduct of the hen even in the upper portion, so that an egg may be infected in the earlier stage of its formation. particularly at the time when the white or albumin is secreted. A diseased condition of the ovary of the hen may cause infection of the eggs. Poultrymen, especially those who dress large numbers of fowls, frequently find hens that are so diseased. Unfertile eggs are infected as well as fertile.

"Eggs may be infected after they have been laid, as it is possible for the bacteria to pass through the pores of the shell. Moisture plays a part in such infections, for while the egg is covered with its normal mucilaginous coating and kept in a dry place it is difficult to infect. Infection is not a difficult matter, however, when the egg is moist. Many egg shells are defective, caused by not feeding hens a sufficient amount of shell-forming foods. Eggs are liable to be infected soon after they are laid." Nine species of bacteria were found in one nest, hence the author thinks that nesting material is a great source of infection, for if this has been allowed to remain unchanged for a long time it becomes foul and teems with bacteria.

"Whatever the means of infection, it has been found that a larger percentage of the July, August, and early September eggs are infected or contain a greater number of bacteria (at a time they may be called 'fresh') than the eggs of the other months of the year, particularly when compared with the eggs laid during the months of April, May, and June. This corroborates the opinion of egg packers,

**Coulson's POULTRY FOODS**

made in Petaluma.

Do you want your hens to start laying quickly after the molt.

A scientifically prepared food like

**Coulson's Egg Food**

will do it.

Remember that all egg foods are by no means alike, and it is advisable for you to buy a brand that has stood the test of time.

COULSON'S EGG FOOD is therefore what you want to give RESULTS and keep your flock in healthy condition.

For sale by dealers everywhere. Write for our free book "Poultry Feeding for Profit" with samples of our poultry foods.

**Coulson Poultry & Stock Food Co.**

PETALUMA - - CALIFORNIA

**CROLEY'S**
**High Protein Meat Scrap**

Just what the name implies.

**A Meat Scrap High in Protein**

Not tanned nor embalmed and thoroughly digestible.

Manufactured by

**Geo. H. Croley**

**Poultry Supplies**

**631-637 Brannan St. San Francisco. Cal.**

Obtain it from your dealer, or order direct.

**GEESE**

***Toulouse Embden***

Prize winning stock never beaten at any poultry show.

***$1.50 Per Setting***

Fine Toulouse Ganders for sale at $1.00 each.

Send your order at once for the best stock in the west.

**T. B. C. Sielcken**

**CALISTOGA, CAL.**

**"Chicks Well Hatched are Half Raised"**

**CHICKS**

White and Brown Leghorns especially.

Other breeds of which we can secure good hatchable eggs in our immediate vicinity.

***We are not hatching at present time but can book orders for a limited number of day-old chicks to be delivered during coming hatching season.***

***San Jose Hatchery***

***Henry Langenschwadt San Jose, Cal.***

**WINSLOW'S REDS**

As winter layers cannot be surpassed. For quality have no superiors. Stock for sale at all times. Winter rates, eggs—$3 per 15. Write for Winter Mating List.

**DR. CHAS. E. WINSLOW**
**Proprietor**
**Bx 368 Cor Charlotte and Greystone, Monrovia, Cal**

Send stamp for Rhode Island Red Club Standard.

**COULSON'S POULTRY FOODS**
**MADE IN PETALUMA**
**GUARANTEED**
**SOLD EVERYWHERE**

**John Lynch** Breeder of Registered **Shorthorns**
**MILK STRAIN**
**Box 321 Petaluma, Cal**

When writing advertisers, mention Cultivator.


who invariably prefer April, May and June eggs to those produced during the other months of the year.

"The fact that an egg contains bacteria does not mean that it is worthless. The question is mainly whether or not they are present in large numbers, and if present in small numbers, whether or not they are likely to multiply.

"Bacteria which are commonly found in eggs do not multiply at low temperatures. An egg that is kept at 34 degrees F. is safe from decomposition. Repeated experiments have shown that the rapid growth of bacteria does not occur until the temperature is raised over 55 degrees. While there is some growth at temperatures lower than 55 degrees, it is very slow. At the temperature of 98.6 degrees the bacteria in the egg multiply rapidly. In order to demonstrate the rapid multiplication of bacteria resulting in decomposition, a dozen (January) eggs were taken, and in six of them small holes were made and into each egg bacteria from a rotten egg were introduced on a platinum loop. These holes were sealed with wax and the eggs thus infected, together with the six untreated eggs, were placed in an incubator running at a temperature of 110 degrees. In 48 hours the 6 eggs which had been infected were so badly decomposed as to be very offensive and the remaining six showed no changes in them."

### MORE EGGS.

To show how to make hens more prolific layers the yellow press has shown itself to be a prolific "liar" by springing the following:

The hen is an innocent creature of limited understanding and fixed habits. It has always been a puzzle why hens invariably cross the road in front of rapidly-moving vehicles, and some people have reflected that the hen may be displaying the same degree of sense in her habit of laying only one egg a day when she might just as well lay two, and the world would be glad to have the doubled supply.

It is contended that the hen carries an ample supply of embryo eggs and could easily do better if it were not for the force of habit. The problem is to break the old habit and to aid the hen in forming a less stingy one.

The Philadelphia Record is authority for the statement that the farmers of Ringtown, Pa., are planning to try a novel scientific experiment on their hens, with the object of fooling them into laying two or three eggs a day. The hope is to trick their imagination by means of an electrical illusion.

The hens are to be kept in absolute darkness for several hours and then a bright light is to be turned on. The theory is that the hens, thinking it is full day and that they have overslept, will bestir themselves and lay again.

It is possible, however, that some prevention-of-cruelty society will come forward as "first friends" of the hens and object to this piece of deception worked upon the useful and simple-minded fowl.

---

Feed and water ducks at the same time. You will notice that they take a sip of water after every two or three bites of food.

---

No fowl should be killed for the table that has not been stuffed with fattening feed for at least a week previous.

---

If you intend to build a new poultryhouse set it facing the south and leave the front open.

---

For best results, all changes in mating should be made in the fall.

---

Geese are usually hardy and subject to no particular disease.

---

Keep the stock gentle and tame, and they will turn in more profit.

---

Two or three-year-old geese are more profitable than yearlings.

---

Two moth balls put into each nest will keep them free from lice.


**Can We Ship Chicks?**

**Read** Sept. 4th, we shipped 505 Rhode Island Red Baby Chicks to B. F. Selby, Big Pine, Cal. These chicks traveled 72 hours, (think that over) and 500 of them arrived alive and strong.

We know how to crate baby chicks to make them travel safe anywhere within 48 hours' travel. We have off large hatches every THURSDAY at present. Prices 10c and up. Send today for chick and egg catalog, it's free. Now is the time to get chicks.

**Pioneer Hatchery Company**

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**Going to build? Settled the Roofing question yet? Or it may be that you have an old roof that needs replacing. If you want a roof that will wear for years without paint or repairs, Pioneer Roofing is what you are looking for.**

***Let us send you samples of Pioneer Roofing and our 32-page Roofing Booklet.***

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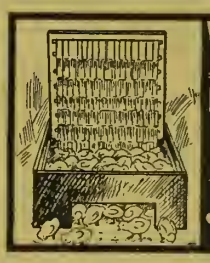
***Irvington, Alameda County, California***



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**JUBILEE INCUBATOR CO., Sunnyvale, Santa Clara Co., Cal.**


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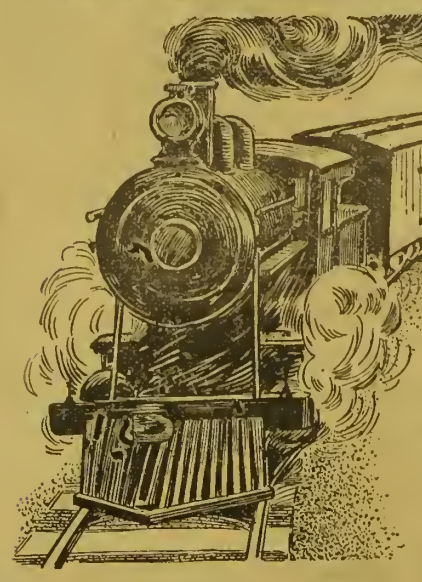


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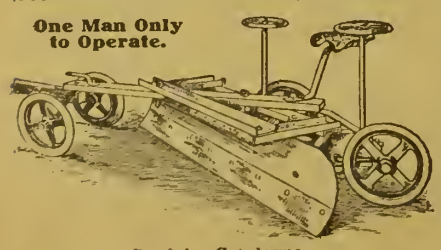

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Grass, Vegetable and Flower Seeds
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My plants are all grown in Tropico and on land never before used for Strawberry Culture. Plants are selected by myself for breeding and the blossoms always picked, therefore the strength grows into new plants. This is why my stock will produce by far the greatest amount of berries. If you are going to set out 100 or 500,000 be sure and write to

***E. H. LEARNED*** ***R. F. D. No. 5, Los Angeles***
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We are prepared to furnish Nitrate of Soda at the lowest market price, and will be pleased to quote prices and furnish literature to any one interested, on application. Advise us what crops you are interested in.

**NITRATE AGENCIES COMPANY**
W. S. SPARR, Agent, 321 Stimson Block, Los Angeles


## PLACER COUNTY FRUIT GROWERS.

(Continued from Page 439.)

in the orchards of California. We would impress upon our state horticultural commissioner and the society which he represents, the necessity for the enaction of more stringent laws by the legislature, if necessary, controlling the strict, intelligent and thorough supervision of the fruit industry in the state, under well qualified county horticultural commissioners, and a more liberal appropriation be made for carrying on this imimportant work. We urge upon the honorable board of supervisors of Placer county that they supplement state appropriations and legislation by appropriating county funds and authority.

"Resolved, That in view of the fact that the great Northwest furnishes a desirable market for our California fruits, and that their local inspectors are exceedingly alert in examination of fruits brought into their markets, and in condemnation of those not up to their standards, it behooves us to awake to the importance of the situation. We therefore urge that some system of inspection over the picking, selecting and packing of any and all fruits that are to be shipped out of this state be exercised, and that said inspector shall have absolute authority in the matter."

Further resolutions were:

"Resolved, That the system in vogue in Placer county of packing fruit in the orchards invariaby leads to a lower standard of quality, a lower standard of efficiency and a higher relative cost of production, while standard, or wholesale packing houses can be made an instrument of higher quality, higher efficiency, and lower cost of production; therefore, be it

"Resolved, That the fruit growers and shippers of Placer county, in convention assembled, hereby place themselves on record in favor of the adoption—as soon as may be practicable—of a general system of wholesale packing houses throughout the county which shall establish standards, and make a uniform pack of all fruits."

Regarding the candidate for this important position, Senator Bills said:

"If the candidate who has made application for this position shall have passed this examination, it is then that the supervisors should adhere strictly to the law and make the appointment entirely in the interest of his qualifications and not from any political affiliations, for a commissioner or inspector who depends upon political influence to retain his position usually is of little value to the county.

"With a strong man in each county to work in conjunction with him the state commissioner can accomplish wonderfully effective results and assure a great uplift for the present fruit industry of this section. It is therefore a duty you owe to yourselves as fruit growers and to your neighbors in this convention to work for the elimination of politics in connection with horticultural affairs."

Incidental reference was made to the fact that alfalfa has been taxed in this state for years, while grain and most other growing crops have not. This, Gen. Chipman said, "is one of the most iniquitous things ever emanating from the state comptroller's office." Why the alfalfa growers of the state should be compelled to pay a tax on their growing crop and the fruit growers on their trees and vines, are questions which the future state legislature should be asked to explain.

Placer county growers are in earnest and are making a noise like success. The end is not reached and the chronic objectors are saying: "I'm from Missouri, they've got to show me." Such fellows without mental grasp to appreciate the necessity for a forward movement are in every community. Placer will be no exception. Let not the progressive growers be discouraged if such people are in evidence.

The organization committee was instructed to call another meeting as soon as plans can be outlined. It will probably be at Newcastle soon.

## Country Life Commission

The following resolutions were passed at the Farmer's Week Session last week:

Whereas we as members of the short course in general agriculture known as "Farmers Week," held on the University Farm of the College of Agriculture of the University of California Octber 25 to 30, 1909, have been deeply impressed by importance of rural problems and their solutions as presented to us during a two-session discussion of the Report of the Country Life Commission appointed by President Roosevelt and whereas we desire to extend and deepen the appreciation of the vital and urgent importance of an adequate and permanent settlement of these questions to the progress and prosperity of the American people, therefore

Resolved that we recommend all regularly organized agricultural and educational associations of California to take up the discussion of the said report of the Country Life Commission at their regular meetings and especially to provide for such discussion at all annual meetings, general assemblies or conventions of California farmers and of California teachers which may be held under their auspices, to the end that the facts, suggestions and spirit of said report shall be widely understood and enforced upon the public mind.

Resolved that we desire to widely call atttention to the earnestness of sympathy with this report and skill in exposition of its premises and cnclusions as manifested in his leadership of our discussion of the report by Mr. W. A. Beard of Sacramento, member of the Country Life Commission from California, and that we advise other associations to invitc Mr. Beard to assist them in similar discussion at any meetings which they may arrange for the purpose, in the hope that he may find it possible without interference with his other duties to continue his disinterested public services in this way.

Resolved that our Senators and Representatives in Congress be requested to secure from the Congress of the United States such appropriatin as they may deem wise for the adequate public printing of the said report for general circulation and for the fuller compilation of the facts and suggestions which the Commission secured in its wide and deep inquiry into the present condition and outlook of rural life in America.

---

The farmer who has brought himself to the point of introducing alfalfa upon his land should be extremely careful in the selection of seed. In the first place it is important that he should sow seed produced in about the same latitude as his farm and from a region of about the same rainfall, thus keeping in a line of acclimation, and with the habits and habitat, as it were, of what he is seeking to raise. Next, he should not sow seed raised under irrigation if he is in a non-irrigating region. A Michigan farmer, for example, should sow seed grown as near to his latitude as possible, say, from Wisconsin, Minnesota or the Dakotas, or not south of Nebraska or Kansas. It is questionable at present, whether it is wise or profitable to attempt raising alfalfa seed in the more humid districts of the eastern and southern parts of the United States. It may be economy to leave the raising of seed to those regions with the least summer rainfall, keeping always in mind the securing of seed grown under conditions nearly like those to which the seed is to be introduced.—From Coburn's "The Book of Alfalfa."

---

Forests are produced by growing the trees close together and allowing the strong trees to kill off the weak ones. There is no other way of getting straight boles fit for timber.

This is also the way to make fence posts. The writer a few years ago saw a forest of elms that had been grown for fence posts. They had been set out in rows six feet apart and four feet apart in the row.

**Wireless Telegraphy** Now is the time to engage in the study of this new science. 1,000 operators wanted to fill positions created by U.S. government action. Salary of trained operators ranges from $15 to $40 per week.

**The Wireless Institute of California** is the best equipped wireless school in the world for teaching this science. We are located so that our high power station is in daily conversations with all stations on the Pacific Coast. R. R. Commercial School of Telegraphy owned and operated in connection with us. We can qualify you for a position anywhere. Young men and women write for descriptive circulars.

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Employment possibilities very strong in Sacramento.

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American Movement Watch, Solid Gold Fountain Pen, Beautiful Doll, or pair of Lace Curtains 2 1-2yds. long. Send for 24 pieces of merchandise to sell at 10c each. When sold, send us $2.40 and receive choice of ten premiums free. Write today REY SPECIALTY CO., 41 Muirhead Bldg., San Francisco

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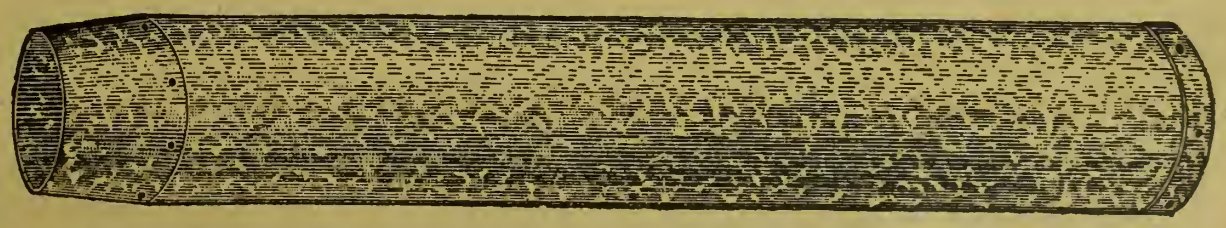

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***SAVES WATER, GRADING AND TIME***

The ***only*** way to ***Irrigate Alfalfa.*** ***Cheaper*** than ***Flumes.*** This is only ***one*** of our ***specialties.*** We make ***Riveted Water Pipe*** in lengths of ***ten feet*** from ***single sheets.*** Let us ***prove*** to you that we make ***Pipe*** and ***Tanks right.*** ***WRITE FOR CATALOGUE.***

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Q.—WHAT IS A COW?

Ans.—A square critter with a peg at each corner to stand on. Built square so as to hold a lot of food.

THE COW TALKS: I have been called a milk machine. As a milk machine I can turn out milk and cream, but not on wiry, musty hay; green grass is best, but when you don't have that, give me sugar-beet-pulp, (Kow-Breakfast-Food) and get a good big milk check every month.

SUGAR-BEET-PULP only costs fifty cents per ton now. It will cost more later on, after it has gone into silo. You had better put some in silo yourself and if you write to the LOS ALAMITOS SUGAR COMPANY quick, that is before they stop grinding beets down there, you can have some shipped in carlots at a reduced price so that you can afford to put it in silo and have it for use after the factory closes down.

MRS. ACOW.

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**Fireless Brooder Now Ready**

The best fireless brooder ever made at any price. Double walls, extra good heavy hover and board, rain, weather, rat and fool proof. Mistakes can't be made. Our experience is gained by handling 630,000 chicks this past year. Thousands of them in these brooders. We make both indoor and outdoor fireless brooders. Send for circular today.

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Reliable seeds at right prices.
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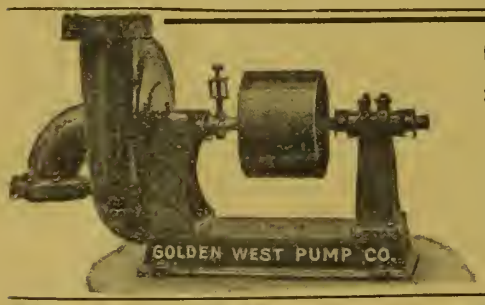


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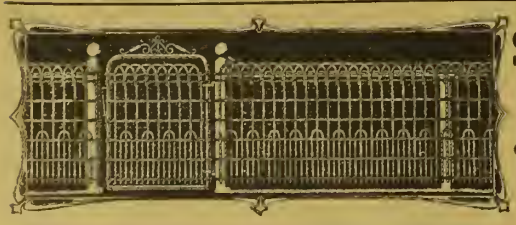

**Standard Fencing Co**
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Ornamental Iron, Wire and Field Fence.
Write for Catalogue No. 5.

**You Can Double the Size of Your Farm**

without buying any more land or without working any more land. This is not done by any magic process but simply by using

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adapted to the particular soil of your farm and thereby doubling its product.
Write for our new book, "The Farmer's Friend," telling you exactly how this can be done. The 1910 issue now ready. Sent Free of Charge to any address.

**Pacific Guano and Fertilizer Co.**
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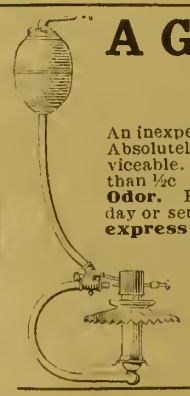

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**OAKLAND SUPPLY CO.**
852 Market Street, Oakland, Cal.


Indications are that the Fifth Annual National Stock Show at Denver, commencing the week of January 8th, will be one of the best ever held in the West.

The Beaumont Eucalyptus Association is very much pleased over the fine showing made by the growth of the rostrata and tereticornis varieties of red gums planted late last spring.

# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Planting Small Onions.

Please tell me whether small onions, not sets, if planted early, will make large onions?—H. H. S., Tulare.

No. They will almost invariably run to seed. With most varieties it is not safe to use sets much above one-half inch in diameter.—Q. A. L.

### House Plants.

What can I do to make my "Martha Washington" bloom? Foliage is fine, but there are no blossoms. What kind of fertilizer should I use for other house plants to insure fine bloom?—A. Y., Chico.

The presumption is that your plants are in the open ground and not in pots or boxes. If so, it is possible to give too much water and especially if the soil is fertile they will make foliage instead of bloom. You know I suppose that this class of geranium does not bloom as constantly as the others. In fact you can hardly expect but the one blooming period and that is the early part of the summer. I think you will find that later on your plants will bloom.

As to your other house plants, it is not always fertilizer that is wanted in order to secure blooms. Too much plant food with free watering will produce fine growth of foliage at the expense of bloom. If, however, your other plants do not seem to bloom because they are not thrifty and of good color, frequent light applications of pulverized sheep or cow manure is very safe and effective.—Q. A. L.

### Onions.

How low a temperature will growing onions endure? Is there danger from frost in most of our California valleys? If planted now, will they make early dried onions, or rather onions for the early market?—

I am not sure I can state just what degree of freezing will destroy a growing onion, but they will endure almost any frost likely to be found in California valleys. Even mature onions stored away for winter will come through a freeze unharmed if they are undisturbed while frosted.

It depends upon the variety whether they will make onions for the early market—varieties like the New Queen, White Bermuda or White Portugal would do, but such as Australian Brown, Yellow, Globe, Danvers, or Red Wethersfield should be planted in February as they are wanted for the main winter supply.—Q. A. L.

### Worms Eating Lawn.

We are troubled with worms eating the clover lawn. They seem to work at nig... and leave holes about the size of a lead pencil. The ground afterwards becomes bare. They are not the regular cutworm, but more like the army worm, only thicker.—A. S. K., Los Angeles.

It is possible that the cut worm treatment may succeed with this pest. Try sweetened bran mash in which a small quantity of Paris green is mixed. This should be scattered around just at nightime so it will not dry out before morning, and will probably capture the worms. If they are in limited numbers, hand picking may succeed. For more general treatment, an application of a commercial potash fertilizer will make it disagreeable for the worms and at the same time benefit the lawn.

### Peas for Fodder.

What is the best pea to plant for fodder, and at what stage should it be cut for milk cows?—A. L., San Bernardino.

The common Canadian field pea of the Prussian blue are the most satisfactory varieties. Some people follow the plan of planting barley or rye with peas, and find excellent results for forage or fodder. The stems of the cereal give support to the peas, they grow more upright, are more easily handled, and the tonnage is fully as great. This is usually fed green, and proves a most excellent soiling crop. It may be cut, cured and fed similarly to the grain hays.

### Apricots on Apples.

Can apricots be grafted on apple, pear, or cherry stock? I have some of the latter trees in an apricot orchard, and would like to graft to apricots or dig up and set to apricots. Is there a general rule covering grafting of different varieties of deciduous trees?—Subscriber, Reedley.

It would be impossible for you to graft your apples or pears over to apricots. Stone fruits may be grafted on stone fruits and seed fruit on seed fruit.

### Shetland Ponies.

Where may I secure a Shetland pony, mare?—C. E. G., Wodland, Yolo county.

We cannot help our subscriber and ask any who know of breeders of


**Do your cows milk hard? Send 50 cents for teat expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

**Perfect Tackle Blocks 70c Up**

**The Burr self-locking tackle block** will positively not slip on wet, greasy or dry rope. Yet it has no teeth or claws to injure the rope as all others do. It has no springs of any kind to get out of order. It is as adjustable as a differential chain block. It will lock positively at any angle—even up side down. One man can do the work of four with this marvelous little farm help. Lasts a lifetime and pays for itself on one job. Prices only 70c to $4.25, according to capacity of 600 lbs. up to 5,000 lbs. Write today for catalog and full information about the one practical rope tackle block on the market.

**Burr Automatic Safety Tackle Block**
BURR MFG. CO.
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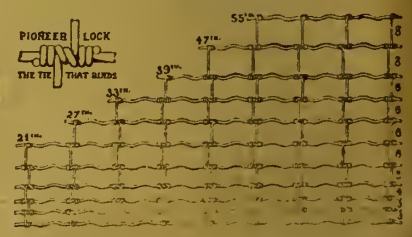
**Kokomo Hog Field Poultry Fence**




The Standard of all makes. Square and Diamond Mesh Fences for all purposes. Made of heavy, non-rust, self-regulating steel wires. Absolutely hog tight and stock proof. Write us for catalog and prices.

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Write for it today. 100 pages, illustrated, filled with information valuable to every horse owner. Dealers keep Tuttle's Remedies. Don't experiment. Get Tuttle's.

**Tuttle's Elixir Co.**
117 Beverly St., Boston, Mass.
Willis A. Shaw, Los Angeles, California Agent.

these attractive little animals to let us know.

### Blackberries for Arizona.

Is Crandall's Early Blackberry a better and earlier berry than Lawton, etc., for hot interior valleys? What is the best red raspberry for the interior valleys?—Arizona.

I think the Crandall's Early an earlier and better variety anywhere in Southern California than the Lawton. Whether it will prove equally as good as the Lawton as far from the coast as Arizona can only be shown by an actual trial. A heavy mulching of straw and stable manure will be of great benefit no matter which variety is used. The Cuthbert seems to do well over a wider area, better than any of the red varieties now known.—Q. A. L.

### Brome Grass.

In the Cultivator of October 7, B. J. O'Mealy asks about the good and bad qualities of Bromus Inermis. I have experimented in a small way both here and at Red Bluff with Bromus Inermis, and native brome grass. Bromus Inermis grows about three feet high, and will make one crop of hay without irrigation on any ordinary land. California Brome grass grows four to five feet high and much thicker than the Hungarian Brome grass, and will make more hay per acre than wheat will on same class of land. Close pasturing during mid-summer will kill either, but if not pastured they make a thick permanent sod and seem to last indefinitely. Either kind is easily killed by plowing under with a good plow in the fall. Seed sown on well prepared land after the first rain usually makes a good stand. The native brome grass, starts a new growth as soon as the weather turns cool in the fall, and makes considerable winter growth.—C. K. Meyer, Tuolumne.

### Borers on Willows.

Regarding borers in weeping willows, in an inquiry sent you by Mr. F. E. Cressey, of El Centro, I promised to write you further upon receipt of the specimens. Mr. Cressey has been kind enough to send me some specimens and they prove to be the common flatheaded apple tree borers. The only means of control that is relied upon for these insects is the cutting out by means of a knife or special tool, which is to be had in certain sections.

The adult of this insect is a beetle, which lays its eggs on the bark of the trunk and larger branches. The larvae or borers hatch from these, remain in the sap wood for some time, but later penetrate deeper into the heart wood. Usually they can be cut out without much difficulty. Afterward the tree should be treated with a good coat of white-wash to protect the wounds from sunburn, and this also acts more or less as a repellant in preventing the beetles from laying eggs. This insect is very widely distributed through the United States. It attacks chiefly the apple, also fruit trees and different kinds of shade trees.—H. J. Quayle, Entomologist, Ag. Exp. Sta., Whittier.

### Para.

In your issue of October 7th, A. L. S. of Imperial inquires "how he can get rid of Bermuda grass?" Well he may inquire as the writer has never seen Bermuda thrive and seed as in Imperial valley. The writer, who takes great interest in the valley, would suggest that A. L. S. experiment by putting out a small plot in the infested field to Para cuttings (the seed at present not being obtainable) about one foot apart. I think that the Para will so shade and outgrow the Bermuda as to extirpate it and if so should yield as paying a crop as alfalfa. Para in itself is easily extirpated by a shallow plowing and then allowing to dry for a week. I am hoping to see this grass becoming of great value to Imperial county, where I have introduced it for the possible benefit to the desert and so far with promising results. It likes heat and plenty of water. The experiment may prove of much benefit and I will gladly furnish A. L. S. with the necessary cuttings through the Cultivator.—H. M.


# Money Making Little Liners

In this department we will insert your advertisement under a classified head for 1½ cents per word. No ad accepted for less than 25c. Our classified columns are the clearing house for our many thousand readers.

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The orange packing season has about closed at Fullerton, the shipments to date being 1297 carloads, with a few more yet to go out. This has been the banner season for the district, although prices received have not been up to those of former years.

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# Household Department

## THE MAN OF MANY PARTS.

HE was a shy-looking man of small stature, with watery blue eyes and nervous, twitching mouth; his age, anything between 30 and 50, for there was a singularly youthful expression about his smooth-shaven face that countless wrinkles belied on close proximity.

When I first saw him he was in his shirt sleeves, busily engaged in transferring a motley colection of scenery from a railway van to the interior of the local hall.

It was a windy day, and as I was passing a sudden gust drove a piece of scenery he was carrying into my face, which sent my straw hat bowling merrily down the road.

We both set off in hot pursuit, but I, being fleeter of foot, had secured it and was brushing away the dust when he arrived on the spot, puffing and blowing. "I—am—sorry—sir," he managed to ejaculate between gasps of breath. "I wouldn't have had it happen for fifty kroner."

I looked at him closely as he spoke, but there was no shade of satire in his voice. He was deadly in earnest.

Later in the day I met him again, still busy. This time he was delivering handbills relative to the great dramatic feats that were to take place that night within the four walls of Roskilde hall.

Opposite where I stood a marvelously realistic picture was plastered on the wall, which showed "The Temptress"—a highly colored young person in a very low-cut evening waist offering a glass of wine to a vacuous youth with canary-colored hair, whilst fluttering from her disengaged hand was a slip of paper labeled "poison."

At that moment the little man came up, smiling significantly as he caught the direction of my eyes.

"Don't miss it, sir," he said, casting a sidelong glance of admiration at the terrifying damsel. "Miss Julia Hammersly as 'The Temptress,' sir, supported by a powerful company of well known Copenhagen artists." His voice died into an awed whisper—then he pressed a bill into my hand and trudged cheerfully away.

As a visitor from the metropolis, I was not disposed to venture on any rash experiments—added to which, lurid drama holds no place in my affections; yet, somehow, I wanted to see my little friend again. He was so delightfully enthusiastic. Farther along the road I met others of the company—they looked cheap and shoddy, and were not delivering handbills, but loafing from a saloon.

I began to feel an intense respect for my little friend.

True to my prognostications, the hall was comparatively empty, and I sat in solitary state within touch of the footlights.

The interval between my arrival and the rise of the curtain was in a way relieved of monotony by furtive peeps into the auditorium from faces behind the act drop, and dismay was manifest. Roskilde is a notoriously "bad egg" for theatrical enterprises, and I began to feel sorry for Miss Julia Hammersly and her powerful company.

Presently a stout, florid gentleman bustled in from behind the screen and sitting down at the piano rattled off a few well known airs with startling rapidity. Then the curtain rose.

Of the drama I remember nothing, for my interest was centered on the little man with the shy, earnest face, who first appeared as a faithful servant in a wonderful dress suit that must have been dealt out to him by the good old master he spoke so frequently of, for its antique cut and curious bobtails gave him much the appearance of a dissipated cockatoo. In this he had a lot to say about the present squire that was more pointed than flattering, and was subsequently driven out of the house in which he had "served faithfully nigh on 50 years," by the squire himself with a hunting crop. This gave him an opportunity to don a slouch hat and stand at the head of the infuriated villagers to demand the whereabouts of Miss Elsie, the farmer's pretty daughter.

As no information appeared to be forthcoming he slipped off to appear as a constable in time to handcuff the heartless ruffian at the conclusion of the act.

When the curtain rose again he had lapsed into villainy as a blase roue and accomplice of Hilda, "The Temptress." He was singularly unadapted for this particular part, but struggled manfully to assert his claim to being "a very devil." Yet no black mustache or throaty ha, ha, ha could rob that mild little face of its natural inoffensiveness, and I confess to a sigh of relief when he went off to add to his list of crimes and returned as a sleuthhound of justice, "with a large pocketbook and side whiskers."

Perhaps his greatest triumph was as the broken-hearted father of Miss Elsie, enveloped in primitive frock coat and bereft of side whiskers, who had journeyed on foot to London and appeared to be seeking his lost child through the cracks of the stage.

He was a good old man and I felt genuinely sorry when his meditations on solitude were cut short by a knife-thrust from the wicked squire, who was then leading a very full life, assisted by "The Temptress" in varied costumes.

At this unhappy ending I began to think my little friend had at last completed his share of the night's bill; but not a bit of it, for there he was in the next scene as the French priest, breathing words of consolation to the dying Temptress, and, incidentally, receiving her confession. And again as the family lawyer bringing news of the legitimate heir, who had been spirited away by the base squire and his paramour.

And then—oh, shades of remorse!—his last effort was my undoing. I had sat patiently through nearly five acts, with a face stolid as the sphinx; but when he dashed on as the missing heir in a jaunty knickerbocker suit and pink cheeks to denounce the wicked squire, it was the last straw and I burst into laughter.

In a moment I checked myself, but it was too late, and I noticed with sorrow the look of anger directed, not at me, who deserved it, but toward the unfortunate property man, who had brought ridicule on the sorry exhibition.

Instinctively I knew the big pimply-faced villian was his master, and a hard one at that; the lean, callous-looking woman his mistress; the others fawning toadies, who would add their quota to aid his downfall.

Long after the doors had closed and the scant audience had dispersed I waited for his approach. He came at last, slowly and with stooping shoulders, like a man who had striven hard and failed.

"I want to congratulate you," I said, placing a friendly hand on his arm, "on a clever performance."

"I thought you was guying me in the last bit, sir," he repied, with faint suspicion.

"Not at all," I answered cheerily. "I was laughing at that big donkey who played the squire."

"And they all thought——"

He stopped abruptly, and his face wrinkled into a smile.

"I got the sack tonight," he went on, wistfully.

"You'd do better in Copenhagen," I began, impressively. "And if you won't think it too great a liberty from a comparative stranger, who imagines business has been none too good lately, I'd like to lend you this trifle until we meet again. "Good night!"

I glanced around when I got further up the road. He was still standing in the same position, gazing awe-struck at the banknote.

I felt glad I had helped the indefatigable little worker, and even better pleased to know I had raised him once more on to his pedestal of hope.

### POMONA RECIPES.

When at the Pomona picnic of the Claremont Farmers' Club we were so pleased with the good things that a number were asked to favor the Cultivator readers with the methods of the cooking. Not all replied, but a sufficient number that one may have an idea of the good things the Claremont picnickers are supplied with by their good wives.

**Nut Bread.**

One egg, ½ cup sugar, 2 cups milk, 5 cups flour, 4 teaspoons baking powder, 1 teaspoon salt, 1 large chopped walnut. Mix and let raise one-half hour. Bake three-quarters hour in bread oven.—Miss Grace Shoemaker, Claremont.

**Oat Meal Cakes.**

Two tablespoons butter, 1 cup sugar, 2 yolks eggs, 2½ cups rolled oats, 2½ teaspoons baking powder, 2 whites eggs. Cream butter, add one-half the sugar and yolks beaten with rest of sugar, then oats mixed with baking powder and salt. Add flavoring and fold in whites. Drop 1 teaspoon three inches apart on buttered pans.—Miss Grace Shoemaker.

**Date Cookies.**

Two eggs, 1 cup sugar, 1 cup butter, 1 pound dates cut up, ¼ pound walnuts chopped, 2 cups flour, 1 teaspoon soda sifted with flour. Drop 1 teaspoon three inches apart on buttered cooky tins.—Miss Grace Shoemaker.

**Carrot Salad.**

One onion grated, 2 large cups grated carrot, 1 small cup ground walnut meats, salt and pepper to taste. Mix with a boiled dressing. The addition of a little chopped celery is nice in celery season. Serve in lettuce leaf. Boiled dressing: ½ cup vinegar, 2 tablespoons melted butter, 2 tablespoons sugar, ½ teaspoon salt, 1 tablespoon mustard. When hot add 2 eggs well beaten. Stir fast on fire until thick. When cold add 2 tablespoons thick cream. This amount of dressing is sufficient for two salads. It will keep for a month.—Mrs. Wm. S. True, La Verne.

**Oat Meal Cookies.**

One cup lard or butter, 2 cups sugar, 3 cups oatmeal, 1 cup sour milk or butter milk, 2 eggs, 1 teaspoon soda, 1 pound of raisins chopped fine, ¼ teaspoon salt, enough flour to roll out about ¼ inch thick. These are fine for picnic or lunch baskets.—Mrs. Wm. True.

**Salmon Loaf.**

To 1 can of salmon add 1 cup of milk, 1 beaten egg and 6 soda crackers, rolled fine. Season with salt and pepper, make in long loaf, dotting top with butter and bake half an hour. Garnish with parsley and serve with sliced lemon.—Mrs. Jennie A. LeRoy.

**Nut Loaf.**

1 cup of ground walnut meats,
1 cup of mashed potatoes,
1 cup of fine bread or cracker crumbs,
1 cup of milk,
1 egg.

Season with salt and pepper and make into loaf. Pour over top, 3 tablespons melted butter, and bake one-half hour.—Mrs. Jennie A. LeRoy.

**Tutti Frutti Jelly.**

Make two quarts of lemon jelly by directions in box of Knox's gelatine, then add ripe strawberries, cherries, blanched almonds, and walnut meats. Set in a cold place over night before using. If cherries are not in market, used canned ones.—Mrs. Jennie A. LeRoy.

**Archangel Cake.**

Whites of 8 eggs well beaten,
1 cup sugar,
1 cup butter,
2 cups of flour sifted four times,
2 even teaspons of baking powder.

Bake in a slow oven for 50 minutes. Ice cake with boiled icing flavored with ½ teaspoon of vanila and ½ teaspoon of lemon.—Mrs. Jennie A. LeRoy.

**Ginger Snaps.**

1 cup molasses,
1 cup sugar,
1 cup shortening.

Boil these together until quite thick, then add 1 teaspon of cinamon, 2 teaspoons of ginger, 1 teaspoon of salt and ½ of cloves. 2 eggs and 2 small teaspoons of soda dissolved in a very little milk or water.

Flour enough to roll. Roll thin and bake in quick oven.—Mrs. Jennie A. LeRoy.

**Unleavened Bread.**

Graham or whole wheat flour sufficiently mixed with cold water, or better, cold milk. The milk or water must be very cold. A well beaten egg may be added if wished. Mix quickly and drop in little hot pans—very—hot—and place at once in very hot oven.

Add no salt, nor baking powder, nor other ingredient than given above. Putting the cold mixture in the hot oven does the work and a light, healthful bread or "gem" results.—Mrs. Lorbeer.


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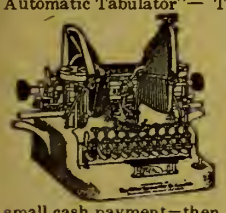
The typewriter whose conquest of the commercial world is a matter of business history—yours for 17 cents a day!

The typewriter that is equipped with scores of such conveniences as "The Balance Shift"—"The Ruling Device"—"The Double Release"—The Locomotive Base"—"The Automatic Spacer"—The Automatic Tabulator"—"The Disappearing Indicator"—"The Adjustable Paper Fingers"—"The Scientific Condensed Keyboard."



## Yours for 17 Cents a Day!

We announced this new sales plan recently, just to feel the pulse of the people. Simply a small cash payment—then 17 cents a day. That is the plan in a nutshell.

The result has been such a deluge of applications for machines that we are simply astounded.

The demand comes from people of all classes, all ages, all occupations.

The majority of inquiries has come from people of known financial standing who were attracted by the novelty of the proposition. An impressive demonstration of the immense popularity of the Oliver Typewriter.

A startling confirmation of our belief that the Era of Universal Typewriting is at hand.

## A Quarter of a Million People are Making Money With

The—— OLIVER Typewriter

## The Standard Visible Writer

The Oliver Typewriter is a money-maker, right from the word "go!" So easy to run that beginners soon get in the "expert" class. Earn as you learn. Let the machine pay the 17 cents a day—and all above that is yours.

Wherever you are, there's work to be done and money to be made by using the Oliver. The business world is calling for Oliver operators. There are not enough to supply the demand. Their salaries are considerably above those of many classes of workers.

**"An Oliver Typewriter in Every Home!"**

That is our battle cry today. We have made the Oliver supreme in usefulness and absolutely indispensable in business. Now comes the conquest of the home.

The simplicity and strength of the Oliver fit it for family use. It is becoming an important factor in the home training of young people. An educator as well as a money maker.

Our new selling plan puts the Oliver on the threshold of every home in America. Will you close the door of your home or office on this remarkable Oliver opportunity?

Write for further details of our easy offer and a free copy of the new Oliver catalog. Address

**The Oliver Typewriter Company**
257 California St. San Francisco, Cal.

# ENTERPRISE

## Meat and Food Chopper

The *only true Meat Chopper*—the only chopper that has a razor-edge, four-bladed steel knife and perforated steel plate that *actually cuts* meat, fish, vegetables, fruits, bread, etc. *without crushing or mangling.*

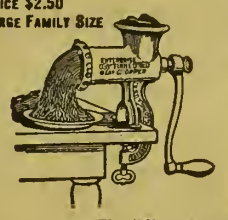
The "ENTERPRISE" is the strongest chopper made—has the fewest parts—is the simplest in construction. Easily cleaned. Cannot rust.

*For Sale at Hardware and General Stores Everywhere.*

No. 5, Small Family Size Chopper, $1.75. No. 10 Large Family Size Chopper, Price, $2.50.

"ENTERPRISE" Meat and Food Choppers are made in 45 sizes and styles for Hand, Steam and Electric Power. We also make *cheaper* Food Choppers but recommend the above. *Illustrated catalogue FREE.*

No. 10
Price $2.50
Large Family Size



## Sausage Stuffer and Lard Press

The quickest way, the easiest way, the cheapest way to make the best sausage and lard is to use the "ENTERPRISE" Sausage Stuffer and Lard Press—two machines in one. It is an absolute necessity at butchering time.

It is strongly made and every part does its work without a hitch. Plate fits perfectly and cylinder is bored absolutely true. Pressure will not cause meat to rise above plate. The patent corrugated spout prevents air entering the casing, thus assuring perfect filling and preservation of sausage.

Can be changed into a *Lard* or *Fruit* press in a jiffy.

*Sold by Hardware Dealers and General Stores everywhere.*

Write for catalogue.

No. 25
4 Quart
Japanned.
Price $5.50.
4 sizes.
Tinned and
Japanned.

## Bone, Shell and Corn Mill

A necessity to farmers, poultrymen and all who keep poultry. A splendid general, all-round mill. Grinds poultry feed and makes bone meal fertilizer.

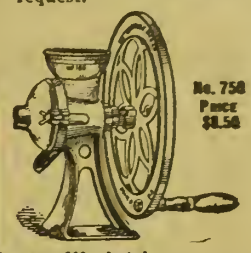
Grinds dry bones, oyster and other shells, corn, etc. Pays for itself in a short time. Size shown in illustration (No. 750, Price $8.50, weight 60 lbs.) grinds 1¼ bushels corn per hour

*Look for the name "ENTERPRISE" on the machine you buy.*

We also make other household specialties—all bearing the famous name "ENTERPRISE"—Coffee Mills, Raisin Seeders; Food Choppers; Fruit, Wine and Jelly Presses; Cherry Stoners; Cold Handle Sad Irons, etc., etc.

*Ask for them at Hardware and General Stores.*

Illustrated catalogue on request.



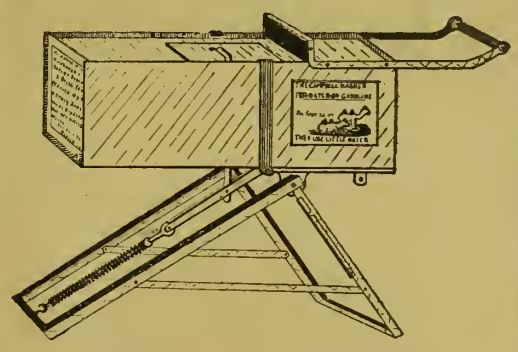
No. 750
Price
$8.50

*The "Enterprising Housekeeper" is a valuable book containing over 200 selected recipes as well as numerous kitchen helps. Sent anywhere for four cents in stamps.*

THE ENTERPRISE MFG. CO. OF PA., Dept. 55 Philadelphia, Pa.

# CUT OUT YOUR LAUNDRY BILL

## A Campbell Washing Machine



will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

**FOR WATER OR GASOLINE**

Circular on application. **For Sale by**

## Boesch Lamp Co.

**1135 Mission St.,** Near the Post Office, **San Francisco, Cal.**

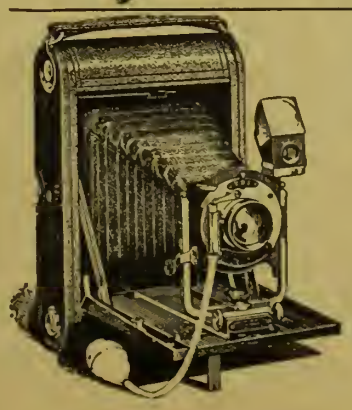
## $16.30 buys this handsome six-hole Nickel-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

## The Wm. Peck Co.

**2803 Folsom Street, San Francisco, Cal.**



# Kodaks

Developing, Printing
Enlarging, Supplies.

## Earl V. Lewis Co.

**226 W. 4th, Los Angeles, Cal.**

Mail Orders Solicited

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Nov. 3d, 1909.

### Butter.

Heavy receipts have weakened the butter market though quotations remain at last week's figures.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

| | |
|---|---|
| Creamery per roll | 70@75 |
| Eastern Creamery per roll | 70 |
| Cooking | 26 |
| Ladles | 26@27 |

### Cheese.

| | |
|---|---|
| Northern fresh | 18½ |
| Young America | 21 |
| Domestic Swiss | 23 |
| Imported Swiss | 32 |

### Eggs and Poultry.

The egg market is very firm owing to light receipts though prices are quoted exactly as last week.

Paying price f. o. b. L. A. is:

| | |
|---|---|
| Local candled | 46@50 |
| Case count buying price | 42 |
| Eastern fresh | 32@34 |
| Storage | 30@32 |

Dealers pay for live poultry f. o. b. L. A.

| | |
|---|---|
| Hen per pound | 18@20 |
| Roosters | 9@18 |
| Broilers 1¼ to 2 lbs. | 18@20 |
| Roasters 3 lbs. and up | 18@19 |
| Turkeys | 20@24 |
| Geese | 10@12 |
| Ducks | 10@12 |
| Squabs | 1.25@1.75 |

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

| | |
|---|---|
| Hogs from 175 to 200 pounds | 7½ |
| Prime steers | 4½ |
| Heifers | 3½@4¼ |
| Calves per pound | 5 |
| Sheep ewes per head | 3.75@4.00 |
| Lambs per head | 3.75@4.00 |
| Wethers | 4.50@5.00 |

### Potatoes.

Wholesale prices are:

| | |
|---|---|
| Yellow Sweets per ctl | 1.25@1.30 |
| Burbank local | 85@1.00 |
| Highlands | 1.00@1.25 |
| Salinas | 1.65@1.75 |

### Onions.

Wholesale quotations:

| | |
|---|---|
| Silverskins local lug | 1.00 |
| Northern Yellow Danvers | 1.25 |
| Australian Browns yer sack | 1.35 |
| Garlic | 7@8 |

### Vegetables.

| | |
|---|---|
| Artichokes locals | 75@90 |
| Asparagus, crate | 2.25@2.75 |
| Beets, sk | 90 |
| Beans, string | 2@4 |
| Brussels sprouts per lb. | 10 |
| Bell peppers | 4 |
| Cabbage, per sack | 1.25@1.50 |
| Celery per crate | 2.50 |
| Chili per lb. | 2 |
| Cucumbers per box | 40 |
| Cauliflower per doz | 90@1.00 |
| Carrots per sk | 90 |
| Corn per box | 40@60 |
| Egg Plant per lb. | 2@4 |
| Green onions per doz bunches | 20@25 |
| Hubbard squash per lb. | 1½@2 |
| Summer squash per box | 35@45 |
| Lettuce choice per crate | 75@1.25 |
| Leeks | 35@40 |
| Oyster plant | 35@40 |
| Okra per lb | 7@8 |
| Peas per lb | 4@5 |
| Parsley, per doz. bunches | 25 |
| Pumpkins per lb. | 1½ |
| Parsnips | 40 |
| Radishes per doz | 20@25 |
| Rhubarb, No. Strawberry box | 175@2.00 |
| Rhubarb, crimson winter | 1.00 |
| Spinach per doz | 20@25 |
| Turnips sk | 90 |
| Tomatoes lugs | 50@65 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 3.50 |
| Grapefruit | 2.00@3.50 |
| Lemons | 2.25@3.50 |
| Limes, halves | 1.50@2.00 |

### Fresh Fruits.

Wholesale prices on the market are:

| | |
|---|---|
| Bellefleurs | 1.00@1.35 |
| Fall Pippins | 75@1.25 |
| Winesaps | 2.75 |
| Pearmains Red | 1.20 |
| Greenings | 75@1.10 |
| Jonathans | 2.25@2.85 |
| Smith Cider | 75 |
| Casabas per crate | 1.70 |
| Cantaloupes Jumbos | 2.50@3.00 |
| Christmas melons | 2.00 |
| Figs | 85 |
| Grapes lug box | 75@1.25 |
| Guavas, basket | 04 |
| Persimmons lb. | 8@10 |
| Peaches per box | 1.25 |
| Bartletts box | 2.00@3.00 |
| Pomegranates | 1.25 |
| Quinces per bx. | 1.25 |
| Roselle lb. | 10 |
| Raspberries | 10 |
| Blackberries | 7@8 |
| Strawberries | 8@10 |
| Watermelons per lb. | 1½ |

### Dried Fruits.

Wholesale prices are:

| | |
|---|---|
| Apricots | 12@13 |
| Evap apples fy per lb | 10@11 |
| Figs box | 1.25 |
| Peaches | 6@8 |
| Pears | 9@10 |
| Plums pitted | 7@8 |
| Nectarines | 7@9 |
| Prunes | 4½@10 |

### Beans Dried.

Wholesale prices are:

| | |
|---|---|
| Limas per ctl | 4.40@4.50 |
| Pink No. 1 | 4.00@4.25 |
| Black eyes | 4.25 |
| Lady Washington | 4.25 |
| Small White | 4.75 |
| Garvanzas | 4.00@4.50 |
| Lentils | 7.00 |

### Nuts.

The following walnut prices are not the wholesale, but car lot quotations established by the walnut association.

| | |
|---|---|
| No. 1 soft shell | 11½ |
| No. 1 hard shell | 11 |
| No. 2 soft shell | 7½ |
| Almonds IXL per lb. | 15@17 |
| Pecans polished | 12½@16 |
| Peanuts Eastern | 7 |

### Honey.

Wholesale quotations:

| | |
|---|---|
| Extracted water white | 7½@8 |
| Extracted light amber | 5½@6 |
| Comb Water White | 18 |
| Comb, white | 15 |
| Beeswax | 25 |

### Hay.

| | |
|---|---|
| New Barley hay | 10.00@14.50 |
| Alfalfa, local | 11.00@12.50 |
| New alfalfa Imperial | 11.00@12.00 |
| Northern | 11.00@12.50 |
| Wheat hay | 11.00@13.50 |
| Tame oat | 11.00@15.50 |

### Grain.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Wheat new per ctl | 1.90@1.95 |
| Kaffir corn | 1.85 |
| Corn | 1.75 |
| Egyptian corn | 1.85 |
| White oats | 1.75 |
| Seed Rye | 2.10 |
| Popcorn | 3.75 |

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Cracked corn | 1.80 |
| Cracked wheat | 2.10 |
| Shorts | 1.85 |
| Bran | 1.60 |
| Cocoanut cake | 1.35 |
| Cocoanut meal | 1.85 |
| Cottonseed meal | 1.25 |
| Oil cake meal | 1.85 |
| Feed meal | 1.85 |
| Cracked wheat | 2.10 |


CONGO
NEVER LEAK
ROOFING

Our Guarantee

THE advantage in buying Congo Roofing (3-ply) is that you can be absolutely sure of getting protection from sun and rain for ten years. There is no guess-work about it. With every roll of 3-ply Congo comes a blank Surety Bond Guarantee numbered and ready for our seal and signature as soon as your roof is laid. The guarantee states that if you need a new roof inside of ten years you will get it free and that the National Surety Company will see to it that you get it (or its equivalent in cash). It is a legally binding and instantly enforceable document—a real contract such as your own lawyer would draw up for you. Every possible contingency is provided for. Every fair protection is given you. It is the only such guarantee that applies to any ready roofing today! Other guarantees are mere non-enforceable statements that would prove worthless in a lawsuit. But the Congo guarantee is a real guarantee, and it makes you absolutely sure of the amount of service you will get for your money.

When you buy other roofings you buy roofing material whose probable durability is vague and indefinite. When you buy Congo (3-ply) you buy ten years of assured protection, and the guessing does not begin till after the guarantee term expires.

Why buy a Roofing Riddle when you can (just as cheaply) buy a Congo certainty?

UNITED ROOFING & MFG. CO.

567 West End Trust Bldg., Philadelphia, Pa.

Chicago San Francisco

Blake, Moffitt & Towne, Los Angeles, Agents.


Alexander Gordon of the Sacramento State Bank in an address before the Fresno Realty Board, declared that the grape growers should organize for their self protection. He thought at least 65 per cent of the total acreage must be signed up to make any kind of success.

## San Francisco Markets

SAN FRANCISCO, Nov. 2, 1909.

### Butter.

Butter has declined a cent and a half on extras and firsts other grades remaining as they were last week.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

| | |
|---|---|
| California extras per lb | 31½ |
| Cal. firsts | 30½ |
| California seconds | 29 |
| Storage extras | 30 |
| Ladles | 25½ |

### Cheese.

| | |
|---|---|
| California flats | 14½@16½ |
| Cal. Young America fy | 17½ |
| Young American Oregon fy | 17½ |

### Eggs and Poultry.

Storage eggs have advanced a cent and first 3 cents other grade remain as last quoted. Market firm.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

| | |
|---|---|
| Fresh ranch extras | 55 |
| First | 50 |
| Seconds and thirds | 28@30 |
| Storage extras | 30 |
| Hens per doz | 5.00@9.00 |
| Roosters per doz | 4.00@5.50 |
| Fryers per doz | 5.00@5.50 |
| Broilers | 3.00@4.50 |
| Geese per pair | $1.50@2.50 |
| Ducks | 4.00@8.00 |
| Turkeys | 20@23 |
| Pigeons young | 1.00@2.50 |

### Live Stock.

San Francisco prices gross weight:

| | |
|---|---|
| Steers | 2¾@4½ |
| Cows and heifers | 1½@3½ |
| Hogs | 4½@7½ |
| Calves per lb | 4@5½ |
| Milk lambs | 5½@5¾ |
| Wethers No. 1 | 4½@4¾ |
| Ewes No. 1 | 3¾ |

### Potatoes.

Wholesale market quotations:

| | |
|---|---|
| River White crates | 60@75 |
| Salinas | 1.25@1.40 |
| Oregons | 90@1.00 |
| Sweets | 1.00@1.25 |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Bell peppers per box | 40@50 |
| Cucumbers per box | 50@75 |
| Celery, doz | 30@40 |
| Chili peppers per box | 40@60 |
| Corn per sk | 1.00@1.25 |
| Egg plant per box | 50@75 |
| Green peas per lb | 3@6 |
| Okra | 40@60 |
| Rhubarb per box for bay | 1.25@1.50 |
| Squash per box | 50@75 |
| String beans | 2@4½ |
| Tomatoes | 25@50 |
| Wax beans | 2@3 |
| Lima beans | 5@6 |
| Garlic | 4½@5 |

### Onions.

| | |
|---|---|
| Yellow onions | 70@80 |

### Citrus Fruits.

| | |
|---|---|
| New Navels | 3.25 |
| Valencias | 2.00@3.00 |
| Grapefruit | 1.00@3.25 |
| Lemons | 1.50@4.50 |
| Limes | 6.00@6.50 |

### Fresh Fruits.

| | |
|---|---|
| Bellflowers | 90@1.00 |
| Figs blk box | 75@1.00 |
| Isabellas | 90@1.00 |
| Other varieties | 40@65 |
| Zinfandel and wine grapes per ton | 14.00@18.00 |
| Peaches per lug box | 50@1.00 |
| Pears, winter Nellis | 75@1.50 |
| River Nutmegs per box | 40@75 |
| Pears, cooking, box | 40@75 |
| Persimmons | 1.00@1.25 |
| Pomegranates | 50@75 |
| Quinces | 75@1.00 |
| Huckleberries per lb. | 6@10 |
| Raspberries per chest | 6.00@8.00 |
| Strawberries, chest | 3.00@8.00 |

### Dried Fruits.

| | |
|---|---|
| Santa Clara prunes | 2¾@3 |

1 cent premium for larger sizes.

| | |
|---|---|
| Apricots per lb. Royal | 9@10½ |
| Apricots Moorpark | 11@12½ |
| Peaches—Choice....5; Fancy | 7 |
| Apples evap | 7½@8½ |
| Pears | 6@9 |
| Figs | 3@4 |
| Nectarines | 5@6 |
| Plums | 7@8 |
| Apples | 6½@8½ |

### Raisins.

1909 crop, f. o. b. Fresno, 1-lb. cartons—Choice, 4½c; Fancy, 5¼; Seedling Stock, 2½c, sweat-box; London Layers, 2-crown, 90c; do, 3-crown, $1; Fancy Clusters, $1.25; do. Dehesa, $1.50; do. Imperials, $1.75; Loose Muscatel, 2-crown, 3c; 3-crown, 3½c; 4-crown, 4c.

### Nuts.

| | |
|---|---|
| Walnuts soft shell No. 1 | 12½ |
| Walnuts S. S. No. 2 | 7½ |
| Walnuts, hard shell | 11½ |
| Almonds '09 N P U | 12¾@13¼ |
| Almonds '09 nonp | 14½ |
| Almonds '09 I X L | 14@15½ |
| Pecans | 15@17 |
| Chestnuts | 14@15 |
| Peanuts | 5@6 |
| Pine nuts | 22½@25 |

### Beans Dried.

| | |
|---|---|
| Limas | 4.20@4.30 |
| Pink | 3.40@3.50 |
| Small white | 4.50@4.60 |
| Large white | 3.40@3.50 |
| Black eyes | 4.00@4.20 |
| Red Kidneys | 4.75 |
| Garvanzas | 2.90@3.10 |
| Bayo | 4.50@4.70 |
| Horse beans | 1.90@2.20 |
| Cranberry | 4.25@4.50 |

### Hops.

| | |
|---|---|
| Hops 1909 crop | 23@26½ |
| Hops 1908 crop | 16@19 |
| Old | 8@12 |

### Honey.

| | |
|---|---|
| White comb | 14@15 |
| Light Amber | 10@12 |
| Extracted W W | 7½ |
| Extracted light amber | 6½@7 |
| Beeswax per lb | 25@29 |

### Hay.

Scott, Magner & Miller say:

Arrivals of hay for the week just past have been 2500 tons. The larger proportion of this amount arrived by water, therefore it can readily be seen that arrivals by railroad have been decidedly moderate.

There has been no decided change in prices during the last ten days. Under very light arrivals of horse hay, prices have continued practically unchanged, but if any thing they are a little weaker than they have been heretofore.

The railroad companies recently have not been able to furnish the transportation demanded at various large hay centers, as their cars have been busy in other lines, and there is considerable dissatisfaction recently on account of the railroad company not being able to suply cars enough to move what hay was offering for shipment to the San Francisco market. However, it has been a good thing generally that arrivals have been so moderate, for if shipments to this market had continued heavy, the current prices could not have well been maintained.

The San Francisco Hay Association is at the present time preparing statistics of the stocks of hay on hand in private barns throughout the territory in Central California, tributary to the San Francisco market.

This week's quotations are:

| | |
|---|---|
| Choice wheat hay | 1900@20.00 |
| No. 1 wheat or wheat & oat | 17.00@18.00 |
| No. 2 wheat or wheat & oat | 14.00@15.00 |
| Choice tame oat | 16.50@17.50 |
| Other tame oats | 14.00@15.00 |
| New crop wild | 11.00@15.00 |
| Stock hay | 8.00@9.00 |
| Alfalfa | 10.00@13.00 |
| Straw | 55@65 |

### Grain.

| | |
|---|---|
| Wheat No. 1 | 1.75@1.80 |
| Barley No. 1 | 1.40@1.46¼ |
| Oats white | 1.57½@1.65 |
| Oats gray | 1.57½@1.65 |
| Rye new crop | 1.75@1.85 |
| Cal sm round corn | 1.70@1.75 |
| Alfalfa seed | 16@18 |
| Mustard brown | 3¾@4½ |
| Millet | 2½@3 |
| Flaxseed | 4 |
| Broom corn seed per ton | 23.50 |

### Feed Stuff.

| | |
|---|---|
| Bran per ton | 29.00@30.00 |
| Feed cornmeal per ton | 38.00@39.00 |
| Cracked corn per ton | 39.00@40.00 |
| Ground barley per ton | 29.50@31.00 |
| Rolled oats per ton | 37.00@38.00 |
| Oil cake per ton | 38.50@40.00 |
| Cocoanut cake per ton | 25.00 |
| Middlings | 36.00@37.50 |
| Mixed feed per ton | 28.00@32.00 |
| Shorts | 31.50@33.00 |

## Deciduous Market

SACRAMENTO, Nov. 1, 1909.—The California Fruit Distributors has received reports today of fruit sales in the East as follows: 17 carloads sold at Chicago, 7 by Distributors; 8 in Boston by Distributors; 8 in Philadelphia, 6 by Distributors; 3 in Minneapolis, 2 by Distributors; 1 in St. Paul by Distributors; 1 in Buffalo by Distributors; 4 in St. Louis, 3 by Distributors; 6 in Pittsburg, 4 by Distributors.

Fruit prices averaged as follows:

Boston—Tokays, $1,12; Double, $2.85; Cornichons, $1.15; Muscats, $1.30, Ferrears, 95c; quinces, $1; Malagas, $1.20.

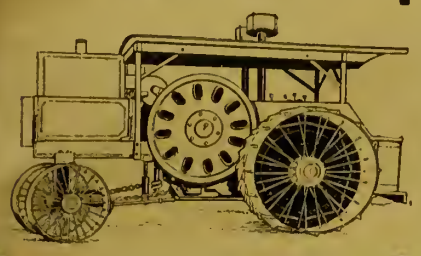
Chicago—Tokays. 70c to $1.35; Malagas, $1.25; Cornichons, 70c to $1; Emperors, 90c to $1.35.—Sacramento Bee.

## Citrus Market

LOS ANGELES, Nov. 3, 1909.

The orange shipping season ended with Sundays' shipments, the total of both oranges and lemons running to 38,071 cars, which is somewhat short of the 40,000 predicted earlier in the season. This is by all odds the greatest shipment of citrus fruits ever seen by California and of course much greater than next year's output. Considering this vast shipment, the prices received have been very satisfactory. No record prices have been secured, but season through, the fruit has so been distributed and market conditions so studied by those in charge of distribution, that general satisfaction prevails.

**Distillate Traction Engine**



**Double Cylinder 50 H.P.**

*For Plowing or Hauling will do the work of Twenty-Five Horses*

*For Pumping or Other Power 50 H. P. Available from Pulley on Engine*

*Two Speeds Forward, One Back, all on Direct Drive*

*Easy as an Automobile to Handle. Only Two Levers, One to Drive, One to Control Power Steering Gear.*

*No Tank Wagon Required.*

**75% Less in Cost Lighter in Weight Than A Steam Traction Engine**

*Come in and See a Demonstration. Send for Circulars*

**Smith-Booth-Usher Co**

212-214 So. Los Angeles St.

Los Angeles, Cal.



FOR SALE

**20 CARLOADS OF MERCHANT NEW PIPE**

Galvanized and Black—All Sizes

Just arrived from the mills. We are offering this pipe at the lowest prices obtainable on the Pacific Coast. Write or telephone for quotations. Call and inspect the stock. We can cut pipe to any measurement you want. Our carload brass valves just arrived from one of the largest brass works in the East. All first-class new goods. Hose bibb, garden valves, angle valves and globe valves. Two carloads oil well casing, 11⅝, 9⅝, 7⅝, 5⅝, 4, 3½, 3¼ and 3-in casing.

**Adams Pipe Works**

2025 Bay St., Los Angeles

Phones—F1917, Bdw. 1264



**H.H.H LINIMENT**

A SAFE-GUARD IN YOUR HOUSEHOLD.

FOR SORE THROAT, RHEUMATISM NEURALGIA, SPRAINS, BRUISES SWELLINGS, POISONOUS BITES LAMENESS IN BACK-SHOULDERS AND LIMBS, CUTS, OLD SORES STIFF JOINTS, CORNS, BUNIONS CHILBLAINS, ETC.

THE STOCKMAN'S STANDBY.

SAFE-PROMPT-SUCCESSFUL TREATMENT FOR THE MANY AFFLICTIONS OF THE HORSE & OTHER DOMESTIC ANIMALS.

CAN BE USED TO BLISTER, OR NOT-AS NEEDED. FULL DIRECTIONS.

PROVEN THE BEST BY 40 YEARS OF TEST.

50¢ & $1 Sizes Sold Everywhere.

IT DOES THE WORK

H.H. MOORE & SONS, MFG'RS. AND PROPRIETORS STOCKTON CALIF


The Valencias were not entirely cleaned up before the end of the year, but the straggling cars remaining will probably be cleaned up befor Saturday night of this week. Quality remains exceptionally good and prices received are satisfactory at this writing.

Lemons are increasing slightly and the price promises to hold to the present satisfactory figures. Shipments range from four to five cars per day.

**Shipments.**

Total shipments of all citrus fruit for the year beginning Nov. 1, 1908 and ending October 31st, 1909; 38,071 cars of which 31,886 cars were oranges and 6135 lemons.

Total shipments for the preceding year were 29,498 cars of which 24,540 were oranges and 4958 were lemons..

For the years 1906-1907 shipments were 27,493 cars of which 23,986 were oranges and 3507 lemons.

The new year started Monday with nine carloads oranges and four carloads lemons, or a total of thirteen.

---

NEW YORK. Oct. 29.—Eight cars oranges sold. Market very steady. Weather clear and cool.

VALENCIAS—
Old Mission, Fy., Chapman.....6.10
Old Mission, Ch., Chapman.....4.80
Golden Eagle, Sd., Chapman.....3.70
Lone Palm, Xc., McG. & W.....3.65
Beach, Sd. T., Mc. & W.....3.25
Old Oak, Ch., Tustin P Co.....3.05
Lucky, Sd., Tustin P Co.....2.50
None Better .....3.60
Swastika, L. V. W. Brown.....3.00
Planet, S. S. Ex.....3.40
Squirrel, A. H. Ex .....3.60
Palm Tree, A. H. Ex.....2.85
Carmencita, S. T. Ex.....3.55
Colombo, S. T. Ex.....3.05
GRAPEFRUIT—
Cerrito Halves .....85
Plain Ends .....1.00

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BOSTON, Oct. 29.—Three cars sold. Weather favorable. Market is steady.

VALENCIAS—
Lincoln, A. H. Casa Blanca.....2.85
Highgrove, Riv. Ex., Highgrove..2.25
Sugarloaf, Riv. Ex., Arl. High.....2.95
Peacock, Or., Worthley & Strong..3.10
ST. MICHAELS—Peacock, $2.70.
SEEDLINGS—Peacock, $1.70.

---

PHILADELPIA, Oct 29.—Five cars Valencias sold.

VALENCIAS—
Hunter, A. C. G., Glendora.....3.30
Golden Orchard, Fy., Or. Ind. F. Co 3.80
Tourist, So. T. Me & W.....3.40
Geisha, Fy. J. S. Jums.....3.00
Lucky, Sd., Tustin Packing Co....2.55
Lone Palm, Xc., Mc & W.....4.15
Pointer, A. C. G.....3.80
Beach, Sd. Mc & W.....3.25
Old Oak, Ch., Tustin P. Co.....2.85
3000 boxes Flordia oranges and grapefruit sold. Oranges ranged from $1.85 to $2.60; grapefruit, $2.50 to $3.40.

---

PITTSBURG, Oct. 29.—One car sold. Very strong on Valencias. Cool.

VALENCIAS—
Martha Washington S. S. Ex. McPherson .....3.70
Sunset .....3.15
ST. LOUIS, Oct. 29.—Favorable weather; one car sold. Market is firm on good fruit.
VALENCIAS—Navajo, A. H., Casa Bianca, $2.85.

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CLEVELAND, Oct. 29.—One car lemons sold. Market very strong. Cold.
LEMONS—Anchor, $5.50 and $5.25.

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NEW YORK, Nov. 1.—Eight cars of oranges sold. Market steady. Clear and warm.

VALENCIAS—
Carmencita, S. T. Ex.....3.75
Sceptre, S. S. Ex.....4.25
Planet, S. S. Ex.....3.65
Pointer, A. C. G. Ex..e.....2.60
Hunter, A. C. G. Ex.....2.30
Mayflower, R. J. Richardson.....6.20
Pilgrim, R. J. Richardson.....4.55
Buena, R. J. Richardson.....3.90
Cal. Orange, Riverside Ex.....3.40
Old Mission Chapman.....6.15
Golden Eagle, Chapman.....3.75
Old Mission, Chapman.....6.05
Golden Eagle, Chapman .....3.90
Orchard, National OrangeCo.....4.10
Standard, National Orange Co....3.55
Swastika, L. V. W. Brown.....3.15
Grape fruit—Cerrito, halves, 80c; Plain Ends, $1.10.

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PITTSBURG, Nov. 1.—No sale of California citrus fruits held here today.

PHILADELPHIA, Nov. 1.—Four cars valencias sold, also 3000 boxes Florida oranges and grapefruit. Oranges ranged from $1.80 to $3.60, mostly $2.10 per box. Grapefruit, $2.30 to $3.65.

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BOSTON, Nov. 1.—Six cars sold. Weather favorable. Market firm on good fruit.

VALENCIAS—
Sugarloaf, Riv. Ex., Highgrove...2.95
Pointer, A. C. G., Azusa.....3.60
Papoose, Strachan F. Co.....2.00
Dixie, C. C. U.....1.95
Highgrove, Riv. Ex. Highgrove..2.35
Triangle, Strachan F. Co.....2.80
Halo, C. C. U.....2.70
LEMONS—
Harmony, S. A. Ex.....6.25
Greyhound, S. A. Ex. .....5.35
Pet, S. A. Ex.....5.75
Grapefruit—E. High A., $1.55.

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ST. LOUIS, Nov. 1.—Cloudy. Market advancing on lemons. Two cars sold.

VALENCIAS—
Squirrel, A. H. Prenda.....3.70
Commercial, A. H. Prenda.....3.30
Palm Tree, A. H. Prenda.....3.35
Victoria, A. H., Casa Bianca.....3.00

# Business Notes

**THIRTY-ONE MILES OF PIONEER ROOFING.**

The Pioneer Roll Paper Company, manufacturers of Ready Roofing, Roof Paint and Insulating Papers—whose factories are located in Los Angeles—recently received an order from the Associated Supply Company, of San Francisco, for 400,000 square feet (31 miles) of 32-inch Roofing—to be used in covering their large oil reservoirs in Kern County. The size of this order, and the source from which it came, is certainly a strong endorsement of the quality of Pioneer Roofing.

We are advised that the Pioneer Roll Paper Company will be glad to send their 32-page illustrated booklet on Roofs and Roofings to anyone who will write for it, mentioning this publication.

---

**OF VALUE TO HORSEMEN.**

Do you turn your horses out for the winter? If so, we want to call your attention to a very important matter. Horses which have been used steadily at work, either on the farm or road, have quite likely had some strains whereby lameness or enlargements have been caused. Or perhaps new life is needed to be infused into their legs. Gombault's Caustic Balsom applied as per directions, just as you are turning the horse out, will be of great benefit; and this is the time when it can be used very successfully. Of course it can be use with equal success while horses are in the stable, but many people in turning their horses out would use Caustic Balsam if they were reminded of it, and this article is given as a reminder.

---

**NEARLY $600,000,000 A YEAR.**

That there are yearly losses to the farm products of the country chargeable to insect pests aggregating $595,100,000; and that these losses are due, directly, to the alarming decrease of birds, which kill the insects, are the statements made by Reginald Wright Kauffman, who has undertaken a serious and exhaustive study of bird extermination and its causes, in the current number of Hampton's Magazine.

Of interest to everybody who suffers from an advanced cost on producing crops due to devastation by insects—this article is of special importance to farmers, for it tells the farmers just where they are losing an amount of money exceeding the annual expenditures of the national government—and it tells them just why.

The farmers of the country have suffered losses, due to the increasing hordes of destructive pests. In the face of these armies of insects, worms and scales, the farmer often stood helpless; unable to cope with them. He saw his corn, hay, tobacco, fruit and truck crops perish. Year by year, unknown to him, the birds—the only effective battling legion against these pests—have been decreasing! They were being wantonly slain to satisfy the demands of woman's vanity.

Because of this slaughter of birds the losses to the farmers have reached the present appalling figures. Government statisticians now estimate that there is a yearly loss of $200,000,000 on the country's cereal crop, including wheat, rye, barley, etc.; of $53,000,000 on hay; of $53,000,000 on truck crops; of $27,000,000 on fruits, and of $175,000,000 on animal products, and, including other farm products, an aggregate of nearly $600,000,000 which might be added to the farmers' bank rolls—if the birds were properly protected.

An even more amazing fact is brought out by Mr. Kauffman—that this slaughter of birds is an unnecessary, brutal and costly tribute to the vanity of women. Most of these birds are killed to trim hats. Entire species of birds have been exterminated. Species of insects were consequently enabled to increas until, for example, one of many hundreds—the Hessian fly—now demands a yearly tribute of $20,000,000 worth of grain.

What can be done? That it is time for the farmers to take action, to demand legislation which shall protect the birds and save our crops Mr. Kauffman conclusively shows.

---

Portland, Oregon, hop growers are gleeful over the prospect of hop prices soaring this year owing to a shortage in Germany and England. Exports are expected to be heavy and prices correspondingly large.

The **International** Auto Buggy

will carry you the farthest and the longest for the least money.

The **International** Auto Buggy

is not the lowest priced auto but it is the cheapest in the end.

The **International** Auto Buggy

has no tire troubles. Its solid rubber tires will not puncture or blow out.

The **International** Auto Buggy

does not cause continual trouble and repair expense. It gives maximum service at minimum cost.

The **International** Auto Buggy

holds a record of 5000 miles without any trouble or repair expense whatever.

Send a postal for a complete catalogue

**California Moline Plow Company**

Stockton and Los Angeles

**Scalefoe**

Greatest Known Spray or Wash for Scale: San Jose, Black, Red, Purple and Brown. Also a sure thing for Red Spider, Canker Worm, Moss, Gum Disease, Silver Mites, Mealy Bug, Caterpillars, Lice, Codling Moth, and all Insects and Bugs that infest plant life; without injury to the plants, and with positive benefit to the soil, when applied.

This has long been the leading Spray or Wash in many sections of the country, wherever introduced. We have bought the formula and the rights for this section and are putting it out under our own brand. No article can bear the "West Coast" name unless it is the best of its kind. We guarantee Scalefoe to be just as represented. Send for circular with many testimonials.

Gallon can, 85 cents; 5 gallon can $3.75. If not sold by your dealer will send gallon can for $1 or 5 gallon can for $4, freight prepaid by us within 200 miles. Write for price in barrels. Mix 20 parts water to 1 part Scalefoe, before using; makes it the cheapest as well as the best. Satisfaction or money back.

Made by the

**West Coast Mill**

Los Angeles, Cal.

Makers of the celebrated

**GERMFOE and FLYFOE**



**Live Oaks Farm**

Frank A. Meacham, Proprietor.

Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to Petaluma, Sonoma Co., Cal.


The red apple harvest of the Rogue River country is in full blast and thousands of boxes of apples are being packed for the market.

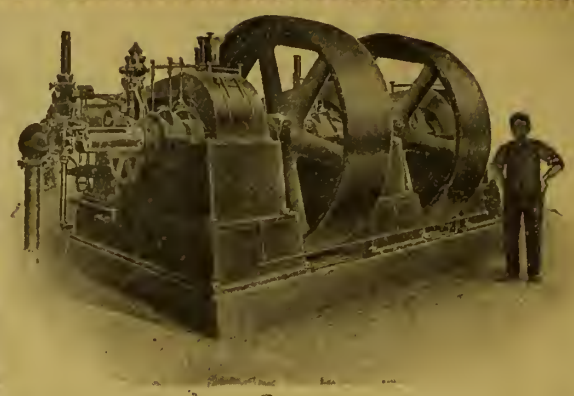
# "Without a Peer"

says one of our customers, writing regarding his WESTERN engine. Extract from his letter is given below:

"It pleases me greatly to be able to say that the engine recently purchased of you has more than met our highest expectations. Of its kind, it is my belief that it is **Without a Peer** in all the West.

In the purchase of the engine I carefully looked over the market, had seen every high powered combustion in the State, had given every argument due weight, had fully considered costs of other powers—both as to first cost and cost of operation—and now after a good test stand ready to say that I do not think we have made a mistake in securing your engine."

The engine referred to is of the size and type shown in cut, and is used for pumping water near San Francisco, Cal.



250 H. P. Western Engine

## Western Gas Engine Company

Builders of Gas and Distillate Engines and Hoists. Engineers and Constructors of Power Plants of Every Size, for Every Purpose.
Sole Manufacturers of the Nix-Frost Crude Oil Suction Gas Producer (Patented)
The Cheapest Power on Earth.

**WORKS & MAIN OFFICE:** Los Angeles, Cal.
**NORTHERN BRANCH:** San Francisco, Cal.

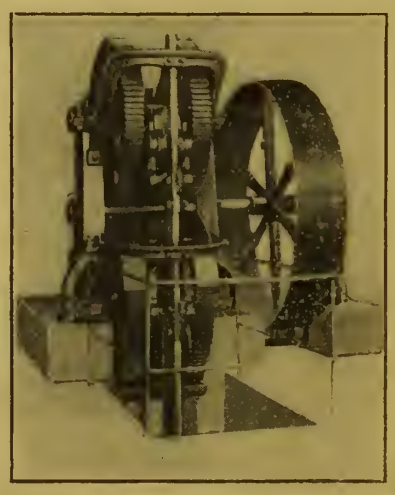
# The Smooth Running, Noiseless Pomona Deep Well Pump

It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

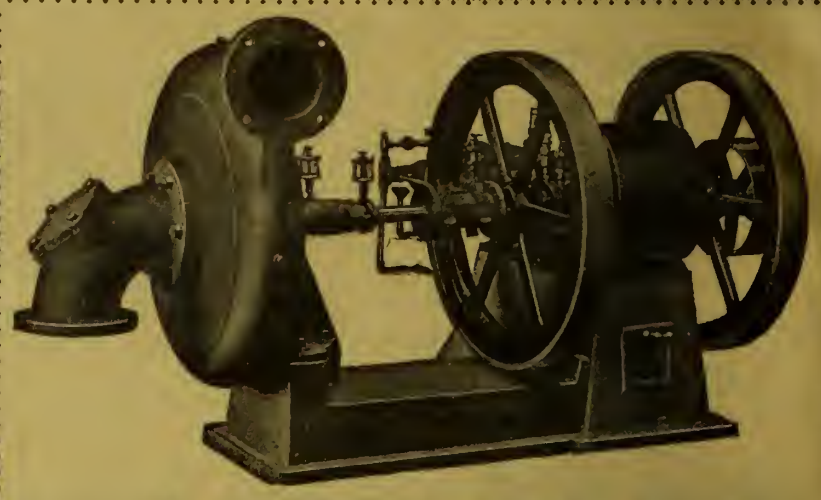
This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.



## POMONA MANUFACTURING CO.
**POMONA, CALIFORNIA**



## BYRON JACKSON IRON WORKS

CENTRIFUGAL PUMP DIRECT, CONNECTED TO GASOLINE ENGINE. WRITE FOR BULLETIN 32.

**SAN FRANCISCO** 351-355 Market Street
**LOS ANGELES** 212 N. Los Angeles St.
**SPOKANE, WASH.**
**SEATTLE, WASH.**

## Vermorels Eclair
### Liquid Sprayer

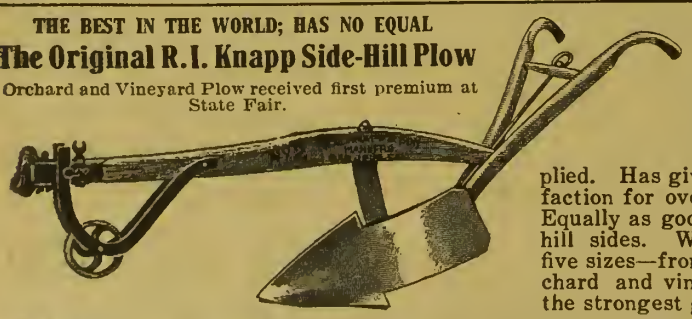
Has diaphragm pump and throws the strongest spray. Write for description.
**Vermorels Liquid and Powder Sprayers** greatly excel all others.

## The H. C. Shaw Co.
General Agents **Stockton, Cal.**

THE BEST IN THE WORLD; HAS NO EQUAL

## The Original R. I. Knapp Side-Hill Plow

Orchard and Vineyard Plow received first premium at State Fair.



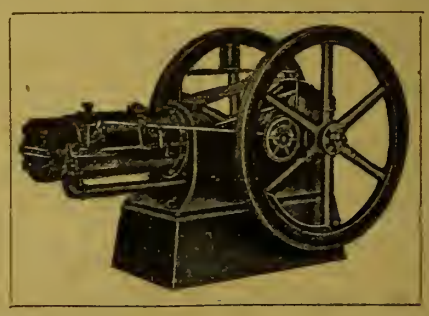
If you cannot get our plow send us the name of your dealer and we will see that you are supplied. Has given entire satisfaction for over thirty years. Equally as good for valley as hill sides. We manufacture five sizes—from one-horse orchard and vineyard plow, to the strongest grading plow.

**SAN JOSE, CALIFORNIA** **H. G. KNAPP & SON**

Tell us where you saw this advertisement.

## *Not too Heavy*
## *Not too Light*
## *But Just Right*

Send for Bulletin No. 12.



## *COMMERCIAL ENGINE CO.*
***951-955 No. Main St., Los Angeles, Cal.***

# Second Hand Irrigating Plants

Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

## Western Machinery Company
**230 Main Street, San Francisco, Cal.**

## More Water! Less Power!
## Longer Life! Less Money!

The American Pump has come to stay because man that is using one is boosting for it. Get our prices and our guarantee before placing orders for irrigating plants. Send us your name and we will send you some interesting catalogs.

## HENSHAW, BULKLEY & CO.
**262-264 South Los Angeles St., Los Angeles Cal.**

From photograph showing amount of

## Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

## "K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

**THE KELLAR-THOMASON MFG. CO., Covina, Cal**

LIBRARY OF THE

# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles November 11, 1909 San Francisco

## A Rose Geranium at Kerman, Fresno County

Courtesy Kerman News

# Select Your Fruit Trees Now

Below we list in brief some of the Fruit Trees and Vines contained in our this season's stock. This does not show our complete line but represents a collection of the best standard varieties. The descriptions given in this announcement are necessarily in an abbreviated form. Our catalogue gives full details concerning each variety, together with our personal observations and recommendations. The dates given after descriptions are the period of ripening. We are selling out fast in some varieties.

**SELECTED STOCK.** Our long experience as fruit growers, fruit shippers and nurserymen enables us to determine what varieties of fruit are best to ship, best to grow; best from a seller's standpoint and best from a grower's standpoint, and in propagating we cut our buds and scions only from parent trees that are the best specimens of their kind for productiveness and quality of fruit.

**THRIFTY AND EXCEPTIONALLY HARDY.** We grow our trees only on virgin soil, never cropping the same land a second time. Our decomposed granite soils produce exceptionally well meshed root systems and bright, highly colored well toughened wood fibre, thus producing a tree more hardy and one that will bear transplanting better than trees grown on river bottom soils such as are commonly used by nurserymen.

**TRUE TO NAME.** All buds and scions are cut by our nursery foreman from trees that have been under his personal observation and that are marked for this purpose when they are in fruit, and we exercise every care known to avoid the possibility of an error. You can rely that our stock is not only true to name, but is propagated from the best of its kind.

**ORDER NOW.** Do not wait until you are ready to plant before making your selection. Order now and thus be assured of just the varieties you desire. We are selling out fast in the most desirable varieties, so do not delay. Give the matter careful thought and consider what is best suited for your locality and best for profit. If undecided, consult some successful orchardist or write us and we will gladly give you the benefit of our experience.

# THE BEST COMMERCIAL VARIETIES

### APPLES.

**Yellow Transparent,** yellow, flesh white, an excellent early variety, June.
**Early Harvest,** good for eating or cooking, last of June.
**Red June,** abundant bearer, June.
**Red Astrachan,** large, fine eating, excellent for dessert, the main reliance for an early apple, July.
**White Astrachan,** very large, fine for cooking, July 15th.
**Gravenstein,** large, skin yellow, fine flavor, the best apple of the summer season, August and September.
**Alexander,** large, cooking, a profitable variety, August 15 to September 15.
**Arkansas Black,** November to March.
**Baldwin,** a fine winter apple, November to January.
**Ben Davis,** very prolific, November to January.
**Grimes Golden Pippin,** fine quality, good keeper, December to March.
**Jonathan,** good for table or market, November to January.
**Mammoth Black Twig,** good size, November to March.
**Missouri Pippin,** good market variety, November to March.
**Rambo,** medium to large, November to December.
**Rhode Island Greening,** an old standard, October to January.
**Spitzenburg,** the best and most profitable winter variety, November to April.
**Winesap,** one of the best standard varieties, November to February.
**Yellow Newton Pippin,** wonderful keeper, fine quality, very profitable, October to May.
**Crab Apples. Red Siberian and Yellow Transcendent.**

### PEARS.

**Bartlett,** the king of pears, a great money maker; we recommend for extensive planting; July 1st to September 15th.
**Beurre Clairgeau,** prolific, good quallty, August 1st to September 15th.
**Doyenne de Comice,** a fine fall pear and very profitable for some localities. October 15th to November 15.
**Winter Nells,** profitable variety, September to October.
**P. Barry,** valuable winter pear, October to January.
**Glout Moreau,** good variety, fine flavor, large, October to January.
**Easter Beurre,** good keeper, very large, splendid for dessert, October to March.

### PEACHES.

#### FREESTONE VARIETIES.

**Alexander,** profitable on account of early bearing, June 8 to 20.
**Triumph,** the first yellow peach, the best of the early peaches, and planted extensively by ourselves, June 12 to 30.
**St. John,** profitable early yellow freestone, June 28 to July 15.
**Early Crawford,** standard profitable variety, July 10 to 27.
**Foster,** good for canning, drying or shipping, July 15 to 31.
**Elberta,** a fine peach, good for canning or drying, excellent shipper, the standard mid-summer variety, planted extensively by ourselves, July 21 to August 6.
**Fay Elberta,** an improved Elberta. Its firm, fine grained texture, makes it superior to Muir or Lovell for canning and also an improvement over Elberta for its shipping quality, being as productive and regular in bearing as the Elberta and better than any peach. Now the most desirable mid-summer peach for all purposes. We plant them extensively ourselves and we heartily recommend this variety. Canned it does not rag out. July 31 to August 20.
**Late Crawford,** an old standard, July 24 to August 13.
**Susquehanna,** old standard, July 22 to Aug. 15.
**Muir,** a splendid drying and canning freestone, July 27 to August 15.
**Lovell,** prolific, good for shipping, drying or canning, August 5 to 20.
**Picquett's Late,** regular bearer, good all-round peach, August, 15 to 25.
**Salway,** the best late peach, August 25 to September 15.

#### CLINGSTONE VARIETIES.

**Tuscan Cling,** early, prized by canners, July 13 to 27.
**Runyon's Orange Cling,** splendid for canning, August 5 to 20.
**Phillips Cling,** the best for canning, August 26 to September 15.
**Levi,** good bearer, good for Eastern shipment, desirable for canning, Sept. 2 to 25.

### PLUMS.

**Clyman,** earliest Plum for distant shipping, June 3 to 17.
**Tragedy,** good money maker for some sections, a fine Plum, June 10 to 17.
**Climax,** Burbank's King of early Plums; planted extensively by us and recommended as best early Plum for profit; June 15 to July 3.
**Santa Rosa,** best of Burbank's recent creations, June 25 to July 15.
**Burbank,** good, profitable and prolific, June 28 to July 15.
**Wickson,** a good variety, July 10 to 25.
**Green Gage,** fine flavor, good canner, July 10 to 20.
**Kelsey,** a profitable shipper, July 20 to August 10.
**Sugar Prune,** good for shipping or drying, July 20 to Aug. 5.
**Bradshaw,** old standard, profitable, July 10 to 25.
**Imperial Prune,** strong and productive, valuable drying variety, July 25 to Aug. 5.
**Diamond,** vigorous grower, very productive; planted extensively by ourselves; very profitable and one of the best mid-summer Plums for Eastern shipments; July 15 to August 5.
**Jefferson,** good for canning, August 1 to 15.
**Fnllenbnrg,** a fine late variety, August 1 to 15.
**German,** a standard, late shipper, August 15 to September 1.
**Yellow Egg,** good for canning, drying and Eastern shipment, August 1 to 10.
**Giant,** a splendid Eastern shipper, August 1 to 15.
**Grand Duke,** a fine large Plum, and profitable, planted extensively by ourselves, August 10 to 20.
**French Prune,** the standard for drying, August 25 to September 15.

### CHERRIES.

**Early Purple Guigne,** earliest marketable Cherry, April 20 to May 1.
**Knight's Early Black,** earliest good cherry, April 25 to May 10.
**Early Chapman,** large black, good shipper, early, May 1 to 10.
**Black Tartarian,** standard black cherry, profitable shipper, May 7 to 25.
**Bing,** fine, large black cherry, May 18 to June 5.
**Royal Ann,** the standard canning cherry and an excellent shipper, May 18 to June 10..
**Black Oregon,** favorite for distant shipping and good money maker, May 26 to June 15.
**Lambert,** large black cherry, excellent shipper, June 5 to 20.

### APRICOTS.

**Royal,** splendid for drying and shipping, June 1 to 20.
**Blenheim,** prolific bearer, highly prized by canners, fine quality, good dryer and good shipper June 15 to 30.
**Routier's Peach Apricot,** June 20 to 30.
**Tilton,** a late bloomer, fine quality, good bearer. June 15 to 30.
**Hemiskirk,** very hardy, regular bearer, June 20 to 30.
**Moorpark,** a fine large 'cot, June 25 to July 10.

### QUINCES.

**Orange,** standard variety, vigorous and productive, September 5 to Oct. 15.
**Rea's Mammoth,** a fine large quince, September 15 to November.
**Champion,** excellent quality, good size, October 1 to November.
**Pineapple,** bears young and regularly, productive September 1 to October 1.

### PERSIMMONS.

**Hachiya,** large and handsome fruit, prolific, October and November.
**Tsurunoko,** rapid grower, good bearer, one of the best, October and November.
**Hyakume,** early, large, prolific, October and November.
**Dai Dai Maru,** one of the best for eating, prolific, October and November.
**Tane Nashi,** very fine fruit, productive, standard variety, October and November.
**Goshio,** very productive, one of the best for quality and market, October and November.
**Mammoth Goshio,** new production, extra large fruit, October and November.

### GRAPES.

**Fontainblenu,** valuable as earliest shipping grape, July 1 to Aug. 15.
**Thompson Seedless,** good shipper and drier, Aug. 5 to 20.
**Black Prince,** best early black grape, Aug. 12 to Sept. 5.
**Rose Peru,** good bearer and profitable black grape, Aug. 12 to Sept. 5.
**Blue Malvoise,** an excellent grape for certain localities, August 18 to Sept. 1.
**Mnlaga,** the best white grape for Eastern shipment.
**Purple Damascus,** attractive grape and good shipper, Aug. 25 to Sept 10.
**Tokay,** table grape of profitable standard, Aug. 18 to Nov. 1.
**Black Morocco,** fine, large black grape, good bearer, Sept. 3 to Oct. 15.
**Cornichon,** large oval fruit, good shipping quality, Sept. 6 to Nov. 1.
**Black Ferrera,** delicious table grape of valuable market variety, Sept. 5 to Oct. 15.
**Emperor,** desirable market variety, Oct. 15 to Nov. 15.

### ORANGES.

**Washington Navels,** the most popular grown orange, very hardy and prolific bearer.
**Thompson Improved Navel,** a good keeper, valuable as a good shipper.
**Valencia Late,** a fine orange, late keeper, being in prime condition when other varieties are out of markct.

### LEMONS.

**Eureka,** a good keeper and very popular.
**Villa Franc,** considered to be the best of all lemons, will stand a lower temperature than any other variety.

### POMELO.

**Marsh's Seedless,** rich meat, good keeper, popular variety.

### NUT FRUIT.

#### ALMONDS.

**Drake's Seedling,** medium hard shell, abundant and regular.
**IXL,** soft shells, perfect; highly recommended.
**Ne Plus Ultra,** soft shells, heavy, regular bearer.
**Nonpareil,** paper shell, one of the best.
**Peerless,** fine, popular variety, large nut.
**Texas Prolific,** wonderfully productive.

#### WALNUTS.

**Ford's Improved Soft Shell,** thin shell, sweet kernel.
**Franquette,** a late bloomer, nuts command the highest market value.
**Mayette,** fine dessert nut and sure bearer.
**Santa Barbara Soft Shell,** a favorite variety in Southern California.

#### PECANS.

**Paper Shell,** nuts of superior quality
**Stewart,** standard commercial variety, very profitable.

### FIGS.

**White Adriatic,** the standard white fig.
**Calimyrna,** the best of Smyrna varieties.
**Capri,** to fertllize the Smyrna varietles.
**Mission,** the best black fig.
**San Pedro,** fine, large black fig, good flavor.

### OLIVES.

**Manzanillo,** very large, fine for pickles and oil.
**Mission,** a fine, large olive, most largely grown in California.

### BERRIES.

#### RASPBERRIES.

**Hnazel,** early, a good shipper, May 22 to June 15.
**King,** good size, an excellent shipper, June 2 to 28.
**Cuthbert,** large, a good shipper, June 10 to July 1.

#### STRAWBERRIES.

**Dollar,** the best market berry; first crop, April 28 to June 5; second crop, June 11 to Oct 1.

#### BLACKBERRIES.

**Lucretia Dewberry,** earlest and best Blackberry, fine flavor, very prolific, June 1 to July 5.
**Lawton Blackberry,** large, black, excellent quality, best late Blackberry, June 25 to Aug. 15.

#### LOGANBERRIES AND PHENOMENAL BERRIES.

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#### CURRANTS.

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**Fay's Prolific,** very large, prolific and profitable.
**White Grape,** large yellowish white.

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# California Cultivator

Vol. XXXIII—No. 20 Los Angeles, California, Thursday, November 11, 1909 Subscription $1 a Year

# An Address on Control of Tuberculosis of Cattle

By Prof. A. R. Ward, Veterinarian and Bacteriologist, Agricultural Experiment Station, University of California, at the State Farm, Davis, October 29, 1909

TUBERCULOSIS is recognized as an infectious disease caused by the germs of tuberculosis. The spread of the disease among cattle is governed by the conditions that permit the transfer of the germs of tuberculosis from the sick animal to the healthy ones. In the vast majority of cases calves are born free from tuberculosis, that is, the disease is not inherited.

The problem of the control of tuberculosis in cattle concerns itself with the means necessary for keeping separate animals that are spreading germs and hence dangerous, from those which have not been contaminated by the disease.

The earliest method employed for the detection of tuberculosis in cattle is that known as physical examination. This method consists of a careful search of the animal for enlarged glands or evidence of lung disease. In cattle its usefulness is very limited and its application practically results only in the detection of animals that are in the last stages of the disease. An overwhelming amount of evidence shows that animals may be seriously diseased in the sense that they are giving off the germs of tuberculosis, and hence dangerous, without presenting evidence that would lead to their detection on physical examination.

The use of the tuberculin test for the detection of tuberculosis in cattle makes possible the detection of a much larger percentage of tubercular animals than is possible when mere physical examination is used. The test makes no distinction between slightly and extensively diseased animals, that is, it is a qualitative and not a quantitative test. Therefore, after a tuberculin test, we can only conclude that certain animals have reacted to this test and may be either slightly or extensively diseased.

This is no drawback, for an animal may be slightly diseased this month and extensively diseased a few months hence. From the standpoint then of controlling the disease, it is just as necessary to detect the slightly diseased ones as those which are spreading the germs of the disease at the moment. The number of animals reacting to a tuberculin test, therefore, is always larger than would be naturally expected, if one judges the matter merely from the standpoint of the amount of visible tuberculosis in the herd.

If we are to depend upon the tuberculin test for selecting tubercular animals from a herd with a view to their separation, it behooves us to scrutinize carefully the accuracy of the test and its limitations under various conditions.

The test has been under trial for at least fifteen years and has during that time been subjected to heated criticism. Belief at present is unshaken that the tuberculin test is a wonderfully accurate method for determining the existence of tuberculosis in an animal, that is to say, a very large percentage of cases which show that peculiar rise in temperature after injection of tuberculin, which we regard as a practical reaction to the tuberculin test, will, upon slaughter, show evidences of the disease. In something less than five per cent of reacting animals, we fail to find evidences of the disease. This is not surprising, for there is evidence to show that an animal may react to the tuberculin test as a result of the presence of a diseased mass so small that it cannot be detected after the slaughter of the animal. There is a case on record of an experiment made to determine how soon after the injection of tubercle bacilli an animal will react to the test. A reaction occurred within fourteen days after the injection of tubercle bacilli and upon slaughter no evidence of disease could be found. It is therefore fair to assume that the animals in question had the form of tuberculosis so minute that the disease could not be detected, nothwithstanding the fact that the animals had reacted to the test.

It remains for us to consider the accuracy of the tuberculin test from the standpoint of the truth of the conclusions drawn from the fact that an animal fails to react. In other words, is the tuberculin test as accurate in its negative conclusions as it is when positive conclusions are drawn from the test? Is the test as searching as we would like to have it? Does it reveal all the tuberculosis in the herd?

In the course of experience in the use of the tuberculin test used to separate tuberculous from non-tuberculous animals with a view to control the disease, a number of interesting facts have been developed.

First: A cow may be extensively affected with the disease and will not react to the test. The statement is generally made that such animals may be detected on physical examination. There are certain cases, however, where it is extremely unlikely that the existence of the disease would be detected in a non reacting animal. If the disease is not present in the lungs or in those lymphatic glands which are located immediately beneath the skin, and hence readily accessible to the touch, there is little likelihood that the disease would be recognized.

Second: In purchasing an animal on the tuberculin test, there is the danger that the animal may pass the test and later develop sufficient disease to cause reaction to the test. There is a period shortly after the germs of tuberculosis have entered the system during which the animal will not react to the tuberculin test. In such a case, the test is no protection against the introduction of the disease.

Third: In a tuberculous animal the injection of a dose of tuberculin causing a reaction, will leave the animal in such a condition that it will not give another reaction to a dose of tuberculin until a considerable time has elapsed. It has been generally considered that the second test will be successful if given at least six weeks after the first one. From my experience I have encountered several cases like this. Five animals were tested with positive results. Six weeks later four of these were retested with negative results. Eight months later they were all retested but only two reacted. The animals in question were all slaughtered after the last test and the existence of tuberculosis was demonstrated in each. This is a small amount of experience from which to draw general conclusions, but I may say that evidence of this kind should be indefinitely multiplied from the experience of others.

The lessons to be drawn from these facts are as follows: When an animal has once reacted to the test it should be regarded ever afterwards with suspicion. One must not expect to verify the accuracy of the tuberculin test by demanding that the animal react twice in succession. Six weeks is not a long enough period between tests.

Fourth: An animal may fail to react to the test owing to the temporary arrest of the disease. In cattle as in man there is a very strong tendency toward recovery from infection with disease. Nature tends to inclose diseased areas within a wall of fibrous tissue which does, temporarily at least, check the progress of the disease. This healed up area may, however, harbor live tubercle bacilli in the interior. Slaughter of animals with arrested tuberculosis has permitted us to demonstrate live tubercle bacilli in the partially healed spot, even though the animal did not react to the test.

Thus a cow may react today as the result of active progressive tuberculosis and later may not react because nature has temporarily overcome the disease. The progress of the disease may remain thus arrested for years and then again break out in progressive form, when it will cause a reaction to the test.

It has long been recognized that one tuberculin test with removal of reacting animals followed by thorough disinfection of the stable, will not check the progress of the disease in the herd. This circumstance was formerly attributed to poor disinfection or the accidental introduction of infection through gross carelessness. This all might occur, but there certainly have been cases conducted under the supervision of experts, in which these errors did not occur, and under such circumstances the blame is laid upon the non-reacting tubercular cow in which the progress of the disease has been temporarily checked. Moore has made a special study of the behavior to successive applications of the tuberculin test to the animals which did not react to the first application of the test applied to a badly infected herd.

This herd of 491 animals showed only 96 that did not react to the test. That is, 80 per cent of the animals did react. These non-reacting animals were placed by themselves and thoroughly isolated from the possibility of infection. They were tested three months after the first test and every six months thereafter. In each cas the reacting animals were promptly removed and the stable disinfected.

The results are presented in the following table:

| Date | No. Tested | No. Reacted | No. Not Reacting | Per Cent Reacting |
|---|---|---|---|---|
| 1904 July | ---96 | 31 | 65 | 32.2 |
| 1905 Jan. | ---65 | 8 | 57 | 12.3 |
| 1905 July | ---57 | 15 | 42 | 26.3 |
| 1906 Jan. | ---42 | 15 | 27 | 35.7 |
| 1906 July | ---27 | 3 | 24 | 11.1 |
| 1907 Jan. | ---24 | 2 | 22 | 8.3 |
| 1907 July | ---22 | 1 | 21 | 4.5 |
| 1908 Jan. | ---21 | 1 | 20 | 4.7 |
| 1908 Aug. | ---20 | 1 | 19 | 5.0 |

The conditions were such in this experiment that we must regard the appearance of reaction among the animals in this herd as due in each case to renewed activity of the disease in an infected area which had become temporarily healed previous to the very first test. The post mortem examination of such of the animals as were killed bore out this conclusion.

(Continued on Page 468.)

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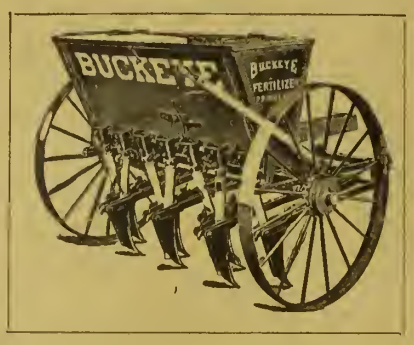


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# Citrus and Sub-Tropical Fruits

## WITHERTIP.

By Prof. A. J. Cook, Pomona College.

DURING the last two or three years a new disease has appeared in our citrus orchards. It is the old, well known withertip of Florida. It attacks all kinds of citrus trees. It is probable that it is affecting many orchards without being known or recognized at all.

The disease pits the fruit; causes the leaves to fall, and the terminal twigs to wither. In some orchards it has done serious harm, and would have become very much more serious had it not been discovered and the remedy applied. Here, as in many other places, the Department of Agriculture has come to our rescue and has been indeed the good angel. The remedy for this is the Bordeaux mixture, which is exceedingly effective. The insecticide need not be strong, and so the remedy is not an expensive one; and when we take into consideration what it will save to the grower, no one who is financially interested can afford to neglect it.

I know of cases where the trees were suffering very severely and were treated at quite a considerable expense, but now there is no appearance of the disease. The trees have their full vigor, and the prospects for next year's crop are exceedingly encouraging. The indications of this fungoid trouble are dropping leaves, withered and dying twigs and pitted fruit. It is a threatening malady and we rejoice that it is so easily and surely overcome.

## HUMUS AS A SOIL IMPROVER.

By A. W. Blair, Florida Experiment Station.

The dark-colored material that we call humus consists of partly decayed organic matter, either animal or vegetable. Stubbs, grass, roots, cornstalks, cotton stalks, and the like are not humus; but these materials when turned under the moist soil soon begin to decay and fall to pieces, and it is then that humus is formed. This process of decay and humus formation goes on as long as the conditions are favorable and there is any organic material left. Humus may be called an intermediate product, for under favorable conditions the process of decay goes on until there is no longer any vegetable or animal substance left, nor yet any humus; but instead, water, gases that escape into the air, and a small amount of mineral matter. We thus see why it is that we need to renew the supply of humus from time to time. If a crop of velvet-bean vines is turned under in the winter or early spring, and an examination is made in April or May, much of this decaying matter or humus will be found. If now a crop of corn or cotton is grown during the summer, and the land thoroughly cultivated, it is probable that none of the humus would be seen if an examination should be made in September. It does not follow, however, that all the humus has been used up, but it has been so thoroughly incorporated with the soil that the eye does not detect it, except that the land would look darker. During all the time the humus was gradually being transformed into simpler compounds, it was serving its purpose.

### The Uses of Humus.

Humus improves the mechanical condition of the soil, by making it looser and mellower; it increases the water-holding capacity, and thus the plant-food holding capacity of soil; it furnishes food for useful micro-organisms, which in turn convert the nitrogen of the organic matter into a form that is available for the crops; it aids in bringing into solution difficultly soluble minerals that contain plant food; and it yields a small amount of mineral plant food itself.

If one would get a good idea of the value of humus, he need only compare fields where a legume crop has been grown as part of a system of rotation, and where stable manure has been used liberally, with those fields where corn and cotton have been grown steadily year after year on commercial fertilizers. The latter are devoid of humus, and have lost much of their power of holding water and plant food. The value of humus is also emphasized where an old barn or house has been left standing in the middle of a field. Around these the crops are usually much superior to those on the surrounding portions of the field.

### Humus and Sandy Soils.

Sandy soils, on account of their open, leachy condition, are especially in need of a good supply of humus. Furthermore, the conditions in Florida favor a rapid disappearance of the humus. This "burning out" of the humus is caused by certain bacteria, and whatever is favorable to their development hastens the destruction of the humus. Warmth, moisture, and a good supply of air are conditions which favor bacterial development; and since these conditions are fulfilled to an unusual degree in Florida, it follows that the humus will disappear with more than ordinary rapidity. In such soils it is necessary to supply humus-forming materials more often than it is in a heavy clay soil.

This loss of humus is compensated for by the production of nitrates as the humus disappears. Analyses of some pineapple soils have shown that samples taken from surfaces where vegetable matter is decaying, are much richer in nitrates than those taken from clean bare surfaces, or from the subsoil where there is but little organic matter.

### How Humus May Be Increased.

The growing of leguminous crops is one of the best ways to increase humus, for in this way nitrogen also is added to the soil. Humus may also be increased by a more general and liberal use of stable manure, and by turning under stubble, weeds, or grass, instead of burning them. When these materials are burnt, nitrogen is lost as well as humus.

## METHODS OF PREPARING LEMONS FOR MARKET.

A preliminary study of the situation has developed the fact that lemons come on the market with widely differing histories.

Some are sufficiently colored when they are picked from the tree and are shipped to the market as quickly as possible. The so-called "tree-ripe" lemons are usually segregated and go on the market as inferior fruit, it being generally agreed that tree-ripe lemons do not have as good keeping qualities as the fruit which is picked green and colored artificially.

"Sweated fruit" is picked green when the proper diameter is reached, and colored rapidly by storage in moist, tight, sweat rooms or sweating tents in which a high temperature is maintained, usually by means of oil stoves burning in the room with the lemons or in a cellar-like room below the fruit and separated from the storage room by slatted floors. The humidity and heat, and perhaps carbon dioxid and other gaseous products of combustion, acting together bring about a rapid coloration of the fruit. Sweating is usually resorted to only when the price of lemons is high and a rapid marketing of the crop is desired. It is generally agreed among lemon growers that sweated lemons are less likely to keep than those colored more gradually at lower temperatures. Since the conditions maintained in sweat rooms are highly unnatural and the result is obtained in a most unnatural way, some attention has been given to the physiological factors involved in sweating.

By far the larger part of the lemon crop is picked when the desired diameter of the fruit is reached, and this is colored up by "curing" at low temperatures in the packing houses.

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| 14 in. long, 7 in. wide, | 11.50 |
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| 24 in. long, 7 in. wide, | 17.00 |
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In some places where the water loss from the fruit is likely to be relatively easy to control, an open floor covered by a roof is sufficient for a permanent storage structure. In order to enable the manager to modify conditions to suit the needs of the individual lots, the lemons, in boxes or trays, are piled up in carload lots, and each pile is covered by a heavy canvas tent, of which the sides and ends may be raised or lowered at will. In those regions where water loss is less readily controlled, the storing house is boarded up with the usual walls and ends. To secure uniformity of conditions with even greater ease, some growers have made use of cellars under the houses. Lemons colored by this slow "curing" process may remain in the tents or cellars as long as six months or more if market conditions require it, but usually fruit is marketed much sooner.

In grading and packing the fruit for market some lemon houses handle the sweated and tent-cured sorts separately, but this is not the invariable rule.—Circular 26, U. S. Dept. Agr.

## VALUE OF THE LABEL.

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## DIRECTIONS FOR PLANTING TREES.

When received, the trees should be heeled in, the fine dirt being well worked in around the roots. If dry, they should be well watered.

In moving, they should be covered with wet burlap or something to protect them from sun and wind.

Holes should be dug four to six inches deeper than the tree goes down; this space filled with fine surface soil.

All bruised or broken roots cut off with a sharp knife, leaving a smooth, sound end cut from the lower side up.

Set the tree one and one-half to two inches deeper than it grew in the nursery. Set with a slight lean to the southwest, straighten the roots and work fine dirt under and between the roots, packing firmly.

When all the roots are covered, pack the whole firmly with the feet, then finish with loose dirt.

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The economics of successful orange and lemon growing is tersely explained in our book, entitled, "The Citrus Fruits: Historically, Horticulturally and Commercially," a copy of which is yours for the sum of 25 cents.

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enables you to read Target at a distance of over 400 yards, therefore the problem of a FARM LEVEL with TELESCOPE at moderate cost has at last been solved. Voluntary letters from every State in the Union show the complete satisfaction it gives for all kinds of **DRAINAGE WORK, IRRIGATION, DITCHING, TERRACING** and every sort of farm work requiring a Level. GUARANTEED to be absolutely SIMPLE, ACCURATE, DURABLE and dependable in every respect.

**Complete outfit** with full **instructions**, shipped anywhere C. O. D. **$15.00** and express charges. **Subject to Examination.**

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**Gum Disease in Citrus Trees**

**CAN BE CURED**

I have found a remedy that never fails to cure, usually by one application.
It has been used the past two years and has always proved affective.

**W. W. BLISS** Duarte, South California

**200,000 SOUR ORANGE STOCK**

For 1910 Spring Planting. Every plant from Genuine Selected Florida Sour Seed. Also ***Sweet Stock.*** ***Don't*** buy uncertain and inferior grown plants. This is nursery gospel. ***Don't*** waste time and money on inferior stock when you can get the best in Southern California for the same price. ***Don't*** take my word for it; come and see my plants in seedbed and nursery and be convinced. Plants are ***8*** to ***20*** inches now and ***5*** months yet to grow.

**Contract Now, Get the Best and Save Money**

**See Them at 232 So. Marengo Ave. Alhambra, California** **Chas. S. McMillan, Citrus Nurseryman**

Ed Brown was in the office of John Frederick, arranging to renew his fire insurance. Frederick was looking up the descriptions, valuations, etc.

"Let's see," he was saying, "any changes in the property described as follows, to wit:"—and so on? You've been doing some building, haven't you, Ed."

"Yes," Brown answered. "I've built a new barn, and put on some new roofs. I've got this Rex Flintkote Roofing on all my buildings now, including the house. No more shingles or tin or tar-and-gravel for *me.*"

"Good for you, Ed. Now, this Rex Flintkote Roofing is fire resisting, isn't it?"

"You bet it is. I made sure on that point. I sent for a free sample of Rex Flintkote Roofing, and tried it with live coals of fire. Then I tried it with water, too, — never feazed it. There's no getting-away from dead sure prove-up tests like these."

"You're right, Ed. I have to keep posted about different roofings. Fires nearly always start on the roof. In the cities, where they have strict building laws, people aren't allowed to use shingles and other inflammable materials for roofs. And there's just as much danger from flying sparks around farm buildings. Something might be wrong with the chimney on the house—threshing-machine engines are around shooting up sparks—a dozen-and-one ways a fire might start, if you havent got a proper roof.

"But—here's what'll tickle you, Ed. I will try to give you a lower rate of insurance, now that you've got Rex Flintkote Roofing on your building.

"Is that so! Well, Im going to tell every farmer in the country about it, and I guess they'll all be sending to Boston for that book which tells about Rex Flintkote Roofing. If anybody wants to know about it, Mr. Frederick, you tell them to write

J. A. & W. BIRD & CO.
89 India Street, Boston, Mass."

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Our Fruit Trees are all budded or grafted from our own tested Orchards. Therefore purchasers are certain to get the varieties they order.

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CALIFORNIA NURSERY CO.
600 ACRES ESTABLISHED 1865
NILES, CALIFORNIA.

I have some fine

Navel and Valencia Orange Trees

FOR SALE. None better in the country. Price reasonable.
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# Deciduous Fruit Culture

## PRUNING MATURE TREES.

MANY and varied are the excuses offered by the man who owns an unpruned orchard; he is ashamed of the neglected trees and tries to justify himself by advancing what he considers, or more likely what he tries to persuade himself, is a good reason. One holds that pruning is little short or sacrilege, contrary to the laws of nature; another tells of his fond recollections of childhood and what excellent fruits he picked from the old apple tree, pruned alone by nature; another says it does not pay, and in his particular case it does not, for the chances are that the orchard is neglected otherwise. The only excuse that has any semblance of justification is that of ignorance, and that does not excuse the man who makes no attempt. Nature's object is the production of seed with provision for its distribution, and she is satisfied when a cherry is produced with enough flesh to attract some fruit-loving bird that may, perchance, drop the seed far from the parent tree. Man grows the fruit for its fleshy parts, and tries to improve these parts, as much by placing the plant in a more favorable environment, as by plant breeding and selection. The man who has the fond recollections of childhood would no doubt find them only childish fancies, as did the man who returned to his childhood home and tried coasting, he would be disappointed. The man who cannot afford to prune, cannot afford to grow fruit, and the man who does not know how to prune must learn; the principles are not complicated.

### Physiology of Pruning.

To be an intelligent pruner one must know something of plant physiology. He should know the effects produced by pruning at different seasons of the year, how to make a cut that will heal most readily, and the influence of pruning on the fruit bearing habit of the tree. It may be said that the fruit grower prunes at his leisure, but luckily this conforms pretty closely to the proper season, when looked at from a physiological point of view. It is generally conceded that pruning during the dormant season incites wood growth, while pruning during the growing season promotes fruitfulness; and, since our trees tend to overbear, it is logical for us to prune largely during the dormant season.

Although it is said that pruning during the summer season may encourage the formation of fruit buds on tardy bearing varieties, it may have the opposite effect, unless done at the proper time, and may cause late growth and unfruitfulness. To give the desired results one must summer-prune shortly before the season of growth ends; earlier pruning starts new growth, while late pruning gives no results. The benefit derived from summer pruning seems to depend upon the ability of the pruner to prune at a time to bring about early maturity. In an irrigated section where soil conditions are easily controlled, the same end may, no doubt, be more easily attained by proper manipulation of the irrigation water.

Both the season at which the wound is made and the character of the cut have an influence upon the healing process. The pruner should remember that all food material capable of healing a wound is taking a downward course through the inner bark and that, to heal well, a wound must be in a position to intercept the downward flow of sap from foliage higher up. When a limb is to be removed entirely, the cut should be at the union with, and parallel to the surface from which the limb arises. Where limbs are to be headed-back they should be cut to a side limb and not to a bare stub. Wounds naturally heal best when made at a season of the year when growth is most active, but, with the possible exception of wounds made in early winter and subjected to a long season of drying, the season at which the wound is made has not important bearing upon the healing process. The grower who has a small orchard that will permit of such a practice, should delay the pruning until as near the opening of the growing season as possible.

Fruits have two general types of fruit-bearing; from terminal fruit buds and from axillary fruit buds. The first type of fruit bud is well represented in the apple and pear, and the latter in the stone fruits. Trees which produce axillary fruit buds are naturally more prolific and require severe pruning as a means of thinning the fruit. In fact, a system of pruning under which the tree with axillary fruit buds would thrive, would cause the apple tree to overgrow to such an extent that it would be rendered almost barren. The point may be more fully illustrated by comparing the peach and the cherry. Although both develop axillary fruit buds they differ in their fruiting habits; the fruit buds of the cherry are seldom found on the stronger growing new wood, and severe pruning, as practiced on the peach, would throw much of the strength of the tree into the production of strong wood that would carry very few fruit buds. We have said that in the apple the type of fruit-bearing is from terminal buds, yet, many varieties develop axillary buds. Varieties which develop axillary fruit buds and bear terminal fruit buds on young spurs all tend to overbear, and require severe pruning. So to a certain extent one can decide for himself how much to prune by observing how the tree bears its fruit.—O. B. Whipple of Colorado Ag. Col. In Bul. 139.

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## EXPERIMENTS IN APPLE CULTURE.

By H. G. Keesling, San Jose.

Aside from my other fruit work I am interested in a small way in apples. During the past twelve years I have planted something over fifty varieties including the old established sorts common in this section, the Newtown Pippin, Winter Pearmain, Yellow Belleflower, Jonathan, Red June, Gravenstein, Fall Pippin, etc.

Among the sorts not common here the Stayman, Winesap, Mammoth, Black Twig, Winterstein, Delicious, Extra Ben Davis, and Missouri Pippin have proven to be worth while and I shall plant more of them. Some other varieties and among them trees and scions of new varieties that have been sent me for trial will have further time to prove their merits.

Among those already grafted over as not worth raising are Red Harvest, Early Melon, Sure Crop, and Red Beitigheimer.

Hubbardston, Glowing Coal and Nonpareil bought of the same nursery are one and the same variety and not worth raising.

From the descriptions of these varieties in the Nomenclature of the Apple I am compelled to doubt if either name is correct for the trees that I have.

Grimes Golden does not come up to expectations being under size and only medium in quality. Apple of Commerce, Senator, Champion, Ingram and some others do not show good results and may have another chance to make good.

Mr. Keesling further adds regarding the fruit situation for the past season: "The fruit growers of this section are feeling much more cheerful than for two years past. While the prune prices are rather low, still the demand has been good and more money has passed into the growers' hands than for two years past.

My experience this year has been: cherries a good crop and fair returns from eastern shipments; apricots not a full crop, prices fairly good; peaches half a crop and price low; prunes a fair crop and sold on two and a quarter base."

More Money For You

Greater productiveness of trees—larger, cleaner, and finer fruit—more money. Isn't that fruit growers' reasoning? Nothing will contribute to this end more than effective spraying. And **Effective Spraying** can best be attained with

Bean Magic Spray Pumps

Effective spraying means **High Pressure Spraying** and till the advent of the Bean Magics a high pressure could not be maintained with a hand pump for any length of time, on account of the body-racking effort needed to operate it. The Bean patent spring divides the work between the two strokes of the handle and works against only one-half the pressure shown on the gauge and saves exactly one-third the labor.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

BEAN SPRAY PUMP CO.
West Julian Street
San Jose, Cal.

Eucalyptus

We have a very fine lot of these trees in variety, ready for immediate shipment.

Orange and Lemon Trees

Our Citrus Trees are of the very best one and two year buds. We claim to have the finest trees on the market for the next season's planting, in any quantity. We are also large growers of

Palms, Roses, Fruit Trees

and other stock. Call and see our stock or write for our prices.

Armstrong's Covina Nurseries
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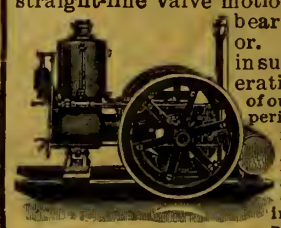
Stickney Gasoline Engines ARE THE BEST

**Why?** Because of the outside igniter, modern open cooling system, straight-line valve motion and ball-bearing governor. Thousands in successful operation because of our years of experience in building the best. Send for our Free Catalog and our Catechism telling fifty-seven reasons why



*Stickney Engines Are the Best.*
Seven sizes: 1½ to 16 H.P. Stationary and portable.

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CAPITAL CITY COMMERCIAL COLLEGE
1015 10TH ST., SACRAMENTO, CAL.
One Year $75. Send for Circular.
Employment possibilities very strong in Sacramento.

### PRUNING TOOLS.

Every pruner should be furnished with good tools; good tools encourage him to do good work. This does not necessarily mean that he must have every tool on the market, many of them are useless; it does mean, however, that the axe and a dull saw have no place in the catalogue of pruning tools. The pruner needs a good saw, a good pair of light shears, a pair of heavy shears, possibly a good heavy knife and, of course, a good ladder. Two common types of saws are found on the market. The common saw with teeth on both edges is a good, cheap one and will answer the purpose in many cases. The various makes of the swivel saws are much handier, however. The blade is stretched between swivels and can be turned to any angle with reference to the frame. It is well adapted to close work in the crotches of the tree. This type of saw can generally be bought for three dollars. The blades are not so frail as they look and seldom break, if properly handled; they can be replaced at a cost of fifty cents. It is really the best type of pruning saw and should be more universally used.

A good type of hand shears is indispensable for light work. Various makes are on the market; buy the one that appeals to you. A pair of heavy shears is almost as essential; they take the place of the saw in many cases and will do the work in less time. They are used in heading in limbs where the saw can hardly be used; the peach pruner finds good use for them. They work well on limbs up to one and one-half inches in diameter. The only objection the writer has to this tool is that the pruner sometimes gets careless and leaves stubs. There is a type of heavy shears on the market that has two cutting edges instead of one, but it seems to do no better work. The pruner finds very little use for a knife in pruning mature trees and seldom carries a special pruning knife. Several types of the long-handled tree-pruners are on the market, but they are of little value in the orchard. The pruner should be close to his work, and with a good ladder and short-handled tools he will do better work—Colorado Ag. Col. Bul. 139.

### STATE FRUIT GROWERS.

The fruit growers of Watsonville are making ready for a big State Convention. We note the following in the Pajaronian:

The Pajaro Valley Orchardists' Association met this afternon in the rooms of the Board of Trade and was presided over by President C. H. Rodgers. The purpose of the meeting was to discuss ways and means for the local entertainment of the delegates to the State Fruit Growers' convention which meets here in December. This event will be one of the most important of its kind ever held in this city and President Rodgers has appointed some strong committees to arrange for the convention.

The committees appointed are as follows:

Reception—A. N. Judd, Otto D. Stoesser, C. O. Silliman, Edward White, R. W. Eaton.

Finance—W. H. Benteen, Hon. J. B. Holohan, I H. Tuttle, James Rowe, P. J. Thompson, J. D. Murphy, Charles Smith, C. G. Redman.

Automobile excursion—J. A. Linscott, James Sheehy, M. B. Tuttle, W. H. White, Peter Storm.

Rooms—E. A. Hall, G. A. Morehead, G. W. Gretter, R. G. Einfalt, C. H. Baker.

Entertainment—Mrs Otto Stoesser, Mrs. C. O. Silliman, Mrs. R. W. Eaton, Mrs. I. H. Tuttle, Mrs. C. H. Rodgers.

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Tulare County Grange No. 198 P. of H., at its last regular meeting, passed strong resolutions advocating the retention of the Experiment grounds for agricultural purposes. Buildings for the station were erected by subscription from residents of Tulare, although the title was given to the University of California.

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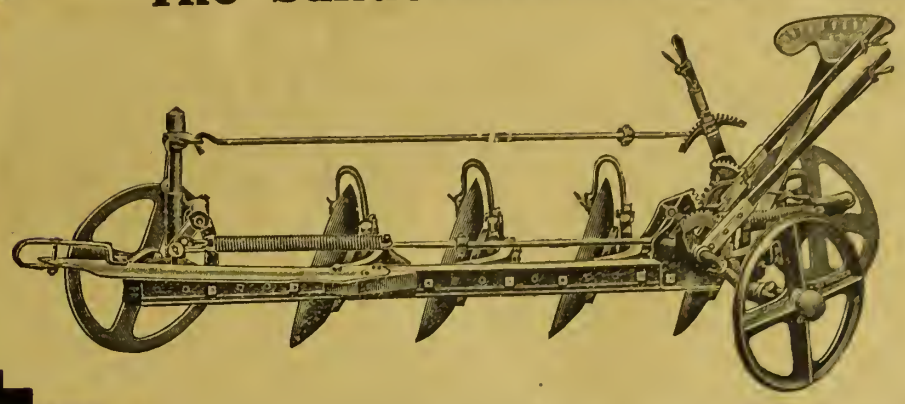
Spokane apple shippers are sending fruit to Vermont.


EVERYTHING FOR THE RANCHER.

The Sanders-Arnott Disc Plows



All Sanders gang plows have one solid steel frame to which the beams are bolted. This is the most important feature ever introduced in the construction of disc plows. Six page illustrated circular giving other reasons mailed to those interested. These plows furnished in all sizes, one to six disc and in field and orchard patterns. Sold by principal dealers or direct by us if your dealer handles an inferior plow. Write us today.

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A complete line of Nursery Stock. Special prices on Peach, Plum and Apricots. It will pay you to let us figure with you before placing your order for Spring planting. All stock guaranteed true to name.

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20 years of fair and square dealing.

THE FRESNO NURSERY

Headquarters for all Commercial Varieties of

Fruit Trees and Grape Vines

Largest growers of commercial money-making varieties in the state. Write us for prices. Catalogue and price list free. Address

THE FRESNO NURSERY, Box 615, Fresno, Cal.

TO TREE PLANTERS

Our New Catalogue Is Ready

It Will Pay You To Send For It

Leonard Coates Nursery Co., Inc.

Morganhill, Santa Clara County, Cal.

Ruehl-Wheeler Nursery

Office and Sales Yard: 121 W. San Fernando St., San Jose, Cal. Box 826

Fruit and Ornamental Trees.

Nurseries: 90 Acres, Monterey Road, Near Edenvale. 25 Acres, Center Road, South of Tully Road. 16 Acres, East San Jose, Alum Rock Ave.

Send for Free Price List.

CHICO NURSERY CO., Chico, Cal.

We have just what you want to plant this coming season.

APPLES, PEACHES, PEARS, PRUNES, CHERRIES and ALMONDS. Also a good stock of GRAPE VINES, BERRIES, ORNAMENTAL TREES, SHRUBS and ROSES. Catalog free. CHICO NURSERY COMPANY, Chico, California

Strawberry Plants

My plants are all grown in Tropico and on land never before used for Strawberry Culture. Plants are selected by myself for breeding and the blossoms always picked, therefore the strength grows into new plants. This is why my stock will produce by far the greatest amount of berries. If you are going to set out 100 or 500,000 be sure and write to

E. H. LEARNED R. F. D. No. 5, Los Angeles

Grower of Strawberry Plants only, and only the best.

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Oregon Grown Peach Trees

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Non-Irrigated

One Year Tops budded on Three-Year-Old Roots

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We are Specialists on Northern Grown

Franquette Walnut Trees

Both Grafted and Seedlings of the Vrooman Pure Bred Variety. The Best on Earth.

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TREES of All Sorts

25 Years Experience in Growing Nursery Stock

1500 acres devoted to the business.

California Horticulture, The Fruit Growers Guide

fully illustrated, describes 2000 different varieties of trees and plants. Contains valuable information. Sent postpaid for 25 cents in stamps.

Write us today for quotations on your requirements.

PAID-UP CAPITAL $ 500,000.00

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You Can Double the Size of Your Farm

without buying any more land or without working any more land. This is not done by any magic process but simply by using

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adapted to the particular soil of your farm and thereby doubling its product.

Write for our new book, "The Farmer's Friend," telling you exactly how this can be done. The 1910 issue now ready. Sent Free of Charge to any address.

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US It Wins Again US

No separator has ever made the real, practical records that has

**The United States Cream Separator**

Try though they may it can't be done.

It has continuously held the **World's Record** on all practical points of efficiency since the Pan-American Exposition 1901.

The officials at the Seattle Exposition (this year) have still further honored the United States Separator awarding it

**The Grand Prize**

This is the highest honor that the Exposition could bestow. The U. S. was positively the only cream separator thus honored.

It is **cleanest skimming, practically no repairs** and **constant use** that makes the **U. S. Separator more valuable** than **any other.** The extra it earns soon repays its original cost.

Hard facts are better than theory; honest records are far better than fake claims.

We want you to see for yourself why the United States Separator was awarded the **Grand Prize.** Please go to our local agent nearest you. He will show you.

It's money in your pocket to know the U. S. Catalog No. 20 sent on receipt of a postal tells you all.

US VERMONT FARM MACHINE CO., Bellows Falls, Vermont. US
INCORPORATED. 1873

**Prompt Delivery Assured** California Customers from Stockton warehouse. No delays. Address all letters to Bellows Falls, Vt.

**Save from $1 to $2 per horse**

that you now pay for clipping by doing it with this splendid

**Stewart No. 1 Horse Clipping Machine**

New and improved *1908* Model Ball Bearing and all enclosed gears running in oil. The price at your dealers' all complete, is $8.50 ONLY

**Every Horse should be Clipped** Clipped horses look better, feel better, work better, and are easily cuffed. No machine ever made runs so easily, clips so fast, and lasts so long as this ***Stewart No. 1.*** It is fully guaranteed and must please or the purchase price will be cheerfully refunded.

**All leading dealers have it. Ask to see it!**

It is the greatest clipping machine of all time. If your dealer hasn't it, write to us about it.

**Chicago Flexible Shaft Co.** Dept. H, **Chicago**

**Pioneer ROOFING**

We tell you to put on a "Pioneer Roof," and forget it. Needs no paint or repairs. Sun proof and rain proof. Not affected by extremes of heat or cold. Suitable for all kinds of buildings—pitched or flat roofs. Comes in handy rolls. Easy to lay—anybody can do it—no special tools needed.

Now then—Let us send you samples, a copy of our 32-page Roofing Booklet and name of our nearest agent.

PIONEER ROLL PAPER COMPANY

DEPARTMENT 11-F LOS ANGELES, CALIFORNIA

# Live Stock and Dairy

**Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.**

## COW TALKS.

**By Mrs. M. E. Sherman.**

THE temptation to keep too many cows for the amount of feed grown is often very great. The right way to act in these cases is to sell off some of the stock. Few of us have courage to do that, but struggle along making life harder for ourselves. I am often surprised at the excellence of the advice I can furnish others and wish I could bring myself to follow it. I am always hoping to skin through somehow with less feed that I like to have. As the animals must not suffer, it is often a loss to buy them feed. The silo is the greatest of aids and without mine I should not try to dairy very long. This month past the Danish Creamery of Fresno paid thirty-nine cents a pound for butter fat. This looks very large, yet compared to the days of $4.00 a ton alfalfa hay and twenty cent butter fat, I do not see that the net profits are much greater than in former years. Alfalfa hay is now $10.00 a ton and milkers' wages are ten dollars a month greater. I sometimes feel that we producers are handed the skin of the sucked orange every time.

**The Silo.**

The smallest silo I have ever read about is eight feet in diameter and twenty-four feet in deptb. I should not care to build one as small as this, for it is not hard to hold the silage from spoiling if a cover is used on it. I find silage keeps well for five days when undisturbed under the cover. In the twenty-six foot silo the cover is made by sewing sacks together leaving them doubled so as to make greater thickness. The covering is made in three pieces and is very convenient to handle. Each piece should be large enough to lap generously over the other one.

**Corn.**

We have not found it profitable to plant pumpkins with the corn, as on irrigated land the corn is easier handled if in rows instead of in hills. The land can be cultivated in the rows and the water run in a furrow between them. It is not easy to grow a corn crop if the land is flooded, for it bakes and checks the corn growth. Cultivation is the life of corn and it can hardly have too much shallow work done on it. The only thing to avoid is to not cut the roots too severely. The amount of corn grown by hills and by row system varies in actual tests only a few pounds. As it does not always vary in one direction, the advocates of either system cannot say their way is best. When corn is not in hills it makes too dense a shade to allow pumpkins to mature well between tbe rows. The easier way to proceed to make another crop come on rapidly is to sow either barley or peas between the rows at the last cultivation. These will remain dormant until the first rain and after the corn is cut. Tbe peas or grain will start to grow as soon as the weeds and make a good growth. I like this way of handling the land intended for soiling cattle, as it is little trouble to put a seeder on the cultivator when running it through the land.

**Time of Planting.**

Some of the corn was planted in April and then along until July as convenient, and it was all ready for the silo this past month as far as maturity was concerned. The difference was great in the amount produced to the acre. The early planted went twenty tons to the acre while the last planted produced about seven. The difference was in the length of its legs; the longest produced two and sometimes three ears to a stalk while the later planted was not often found with two ears. The seed was all grown the year before by the same person. Our seed corn is very poor, I have been looking over the sacks and I do not find a single ear that would score high in the entire lot. As the seed corn came two years ago from a celebrated breeder of corn, the conditions of culture and climate must be taken into consideration to account for this excessive sporting or reverting. The first year that corn is grown under irrigation it is never as good as it is later on. Corn is a seed that does best when not changed too often. In California it has been impossible to find any seed that was not greatly mixed in character. I have had to make a fresh start. It does not look encouraging to see the corn do so poorly at first. Next year I expect to have more perfect ears formed, as the corn will then be acclimated.

**Too Much.**

Whenever there is too much corn it may be made into fodder, but to be of value make it early. When the corn is let stand until it is dried up and woody, the stock will waste it badly. Corn is only a giant grass of great beauty. It should be treated as a grass when it is used in place of hay. Cut it and cure it green and there will be found to be almost no waste.

Here in the San Joaquin Valley corn silage balanced with alfalfa hay is our cheapest feed. The thinner land from which alfafa is cut for hay must be manured. Some of tbe heavier soils may go on producing for some years, but any crop taken away constantly from the land must take elements of plant growth with it. Alfalfa adds nitrogen to the soil by its roots and in that way enriches it after a time. Where a five year's rotation is in use and the land is planted on the fifth year to corn, the alfalfa sod is turned under in the winter months and the land given a thorough plowing and kept cultivated during the winter and spring and in April the corn is planted. Then some commercial fertilizer is drilled in at the last cultivation and the whole piece is planted to barley or wheat the next winter for hay. The next summer the land is used for sorghum or beets for the cattle, and after the crop is off, put on all the manure possible, and plowing it under, sow to peas and oats. There will be nearly a stand of grain from the manure so only ten pounds of oats to the acre need be sown. The next summer another Indian corn crop follows and then the land goes back to alfalfa once more after having had a liberal dressing of 500 pounds of gypsum to the acre. Every winter before the alfalfa is disked, it pays well to give the land some gypsum and alternate this with commercial fertilizer and barn yard manure, while gypsum may be applied in the spring the other fertilizers do best applied in the fall and winter to be washed into the soil by abundant rainfall.—M. E. Sherman.

## HARD MILKERS.

A cow or heifer with a nice, large, well developed udder with four good sized teats placed squarely upon same, seems like a source of pleasure, providing that they are easy milkers, but the same sort of a cow or heifer being termed a hard milker is as a rule a source of annoyance, especially to those who do the milking.

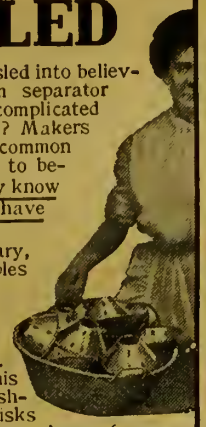
Owing to the fact that a cow or heifer is a nice easy milker they are usually milked out clean at each milking. In this way they are enabled to keep up their regular flow of milk, while on the other hand if tbey be hard milkers the milker becomes

**Cream Separators, all sizes, and prices. O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

**Anthrax Cure, Milk Fever Outfits See O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

# MISLED

Have you been misled into believing a modern cream separator needs disks or other complicated parts inside the bowl? Makers and dealers selling common separators like you to believe so because they know their machines must have them.



The simple, sanitary, easy-to-clean Sharples Dairy Tubular has nothing in the bowl except the tiny piece here shown on the thumb. Compare washing this single piece with washing the pan full of disks here shown from a common separator. Yet Tubulars run easiest, skim fastest, and cleanest, wear longest—are The World's Best. Tubular sales exceed most, if not all, others combined. Tubulars probably replace more common separators every year than any other maker sells.

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Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows


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discouraged and impatient, and fails to draw out the natural quantity. The cow or heifer will then soon show the effects of this by drying up on her milk. In this way many a valuable cow has become practically worthless as a milk producer.

Hard milking in cows or heifers can be positively overcome in a short period of time and in a very economical way (not by the use of the milking tube) but by the use of the teat plug.

The teat should be washed with an antiseptic solution, the teat plug should be dipped in a like solution, then in a little ointment and passed into the points of the teat; being self retaining it should be permitted to remain in the teat from one milking to another. In this manner hard milking can be made a thing of the past.

## BUTTER SCORING CONTEST.

A Dairy and Creamery meeting will be held at the University Farm, Davis, on November 23rd, in connection with the closing of the short course in creamery butter-making and the final scoring for the current year in the educational butter scoring contest. The sixth entry for the current year is due at Davis on November 20th and will be scored in time to announce the results of the first year's competition at the meeting on the 23rd. Some twenty California butter-makers have been competing during the past year for two prize cups to be awarded to those sending butter to the six contests, who obtained the highest and second highest average scores. Certificates of merit will be awarded to those obtaining an average score of 92 or above.

It is urged that as many butter-makers as possible accompany their entries to Davis. They will thus have an opportunity to observe the workings of the Dairy School and meet the students there at work. An opportunity will be given for them to note the quality of other butter entries and compare them with their own. The judges will discuss the entries at the meeting. In no way can a butter-maker do himself more immediate good, other than by taking a course, than by availing himself of this chance. Prominent California creamerymen and dairymen will be present and the important dairy questions will be discussed.—Herbert A. Hopper.

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With big crops, fat bank accounts and with prosperity reigning supreme in every country home, it is the duty of every farmer to look around for opportunities whereby his children can gain impressions that will prove beneficial to them through life and if by taking advantage of these, he can, at the same time, secure for himself and his good wife much needed rest and recreation, it would seem that such an opportunity should appeal to him. This opportunity is offered in connection with the International Live Stock Exposition which will be held in Chicago from November 27 to December 10. The champions of the leading shows of the world, in fact, the finest specimens of cattle, horses, sheep and swine that the world produces will here compete for supremacy and final honors. Do you know what this means? Can you realize what a liberal education such a collection produced by the world's foremost feeders and breeders means to your boys?

The best brains, the greatest masters of the live stock industry, the foremost live stock specialists will there demonstrate what can be accomplished, and shrewd farmers will begin to think of these things and endeavor to make arrangements so that they can profit by the teachings of this great International Exposition.

Four carloads of hogs were shipped from Ukiah by Mr. Garner last week, returning about $2000 to the farmers that brought them in.

Do your cows milk hard? Send 50 cents for teat expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.

# THE NAMES STERLING DE LAVAL

The name DE LAVAL on a cream separator stands for much the same thing as the name STERLING on silverware. It means the highest standard of merit and quality in both cases.

There is the difference, however, that in the case of silverware the name STERLING signifies quality higher than many users can afford to pay for notwithstanding their desire to have it, so that they must be content with plated ware or some cheaper substitute; while in the case of cream separators the STERLING quality is within the reach of every buyer and costs no more than the plated or other inferior imitations, when actual capacity is taken into consideration.

There is likewise the all important difference that while the substitute for silver may answer the purpose almost as well as genuine STERLING, in the case of cream separators the imitation and substitute WASTE in quantity and quality of product every time they are used, and enough in one way or another to pay for the DE LAVAL yearly, while the DE LAVAL lasts for years after the imitation or substitute separator will have been worn out and cast aside.

Why then should any buyer of a cream separator be satisfied with anything less than STERLING quality?

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3 FEEDS FOR ONE CENT
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If you would wish your stock to keep in a good healthy condition feed International Stock Food.

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It is manufactured by a regular chemist and stock breeder, is guaranteed to be equally good for all kinds of live stock and to contain nothing harmful even if taken into the human system. It not only cures but prevents disease and makes stock fat, sleek and glossy.

Put up in 25c, 50c and $1.00 packages. Also 25-lb. water tight pails for $3.50 each. Send for catalogue and circulars.

If your dealer doesn't keep it write to

## Germain Seed & Plant Co.

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Q.—WHAT IS A COW?

Ans.—A square critter with a peg at each corner to stand on. Built square so as to hold a lot of food.

THE COW TALKS: I have been called a milk machine. As a milk machine I can turn out milk and cream, but not on wiry, musty hay; green grass is best, but when you don't have that, give me sugar-beet-pulp, (Kow-Break-fast-Food) and get a good big milk check every month.

SUGAR-BEET-PULP only costs fifty cents per ton now. It will cost more later on, after it has gone into silo. You had better put some in silo yourself and if you write to the LOS ALAMITOS SUGAR COMPANY quick, that is before they stop grinding beets down there, you can have some shipped in carlots at a reduced price so that you can afford to put it in silo and have it for use after the factory closes down.

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John Lynch Breeder of Registered Shorthorns
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**Onion** White Bermuda, Red Bermuda, Crystal Wax, New Queen. Now is the time to plant early onions in the Great Inland Valleys of Southern California. And we would especially call your attention to our line of imported onion seed. They are all True to Name and "Full of Life." Get our prices on large quantities.

**Sweet Peas** Plant the early varieties now for flowers this fall. The following varieties bloom in 50 to 60 days from planting. 10c per packet, 3 packets for 25c. ***Morris & Snow's Earliest Pure White*** (Gould). ***Earliest of All,*** pink and white, very early. ***Bodger's Earliest Pink,*** New. Proved a great success last year. As early as the Earliest Pure White. (We control this stock.) ***Mount Blanc,*** pure white.

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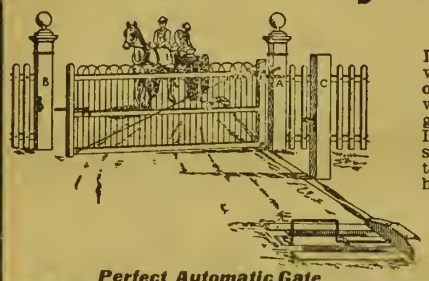

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Has diaphragm pump and throws the strongest spray. Write for description.

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# Small Fruits and Vegetables

## THIS MONTH.

IT IS somewhat early, but strawberry plants may be set this month. Silverskin and Australian Brown onion sets may be planted, also crystal wax onions which are becoming a great favorite. This is the time to plant cabbage, celery, parsley, parsnips, turnips, salsify, beets, and rhubarb and horseradish roots.

Continue spading in of stable manure on ground to be planted next month or later. It is well worth while to have the soil friable and well enriched before planting. Besides that, if it is spaded up and manure well worked in, it will absorb more of the winter rains. If any rubbish is still left about the garden plot, it should be gathered and burned or composted away from the garden, because it may harbor insect and fungous troubles for the future.

## MAKING A HOTBED.

Does it pay one who wants, say, a few dozen tomato plants, a hundred or two each of cabbage, cauliflower, and lettuce plants, to make a hotbed?

If that is all you get out of it, and if you compute the cost in dollars and cents, it may be hard to find where there is any advantage in starting your own plants. At the usual market price in this vicinity, three dozen tomato plants would cost 75 cents, a hundred lettuce plants 75 cents, a hundred cabbage plants $1 a hundred, cauliflower plants, $1.50. It would cost about as much to produce these as to produce several times as much. The cost of seed, except for cauliflower, is a trifle. A 5 or 10 cent packet will give all the plants wanted. Cauliflower seed costs more. The most satisfactory early cauliflowers with me have been White Bouquet and Snowball. The seed cost 25 cents a packet. I've grown them side by side, buying seed from different places, and the only way I could tell them apart was because I knew where I had planted each.

I use for a hotbed sash that were here when I bought the place, three sash each 30x48 in. The ordinary sash are 3x6 feet. Hence my three sash do not give me quite the surface of two of regulation size. The time of making the bed has to be regulated by the season partly, and partly by opportunities to give it attention.

We keep one horse, and about the middle of February I get a bale of oat straw and use it for bedding, as it breaks up faster and gives about the right proportions of litter and manure. From this time until the hotbed is made the horse manure is kept separate, wheeled each morning to a convenient place near the hotbed. As it takes some weeks to accumulate as much material as is needed, I try to pile and pack the manure as taken out just enough to keep it from heating. Then about ten days before I want to use it I work it over, wetting a little if necessary, pile and pack down well, and let it heat. The first fermentation when it is handled this way takes about twice as long as when all fresh manure is used. In from four to eight days the pile will be steaming. Then I work over and make a new pile, taking care to mix well the fermenting matter from the interior and the dried material from near the outside, and to pack all firmly. In two or three days more this will be fermenting well all through, and ready to go into the hotbed.

Very early hotbeds are usually made with 2 to 2½ feet deep of manure, but I find about 1½ feet enough. For this depth the excavation need not be over 2 feet deep. This allows for about 6 inches of soil. For soil for the hotbed I like loam from a part of the garden that was heavily manured the year before, and free from weeds all season. The plants on such soil may not make quite as vigorous growth as where more manure is used, but I find them hard and thrifty and not so likely to be checked in growth when transplanted.

The convenience of the hotbed is to me one of its best recommendations. Your plants are right there when you want them. You take them right from the bed to the ground, and they hardly notice the change. Another great advantage is that you can get what you want. When I buy plants I often find it impossible to get the kind I want when I am ready for them, sometimes impossible to get them at all. As a rule you have to take one of the new kinds most popular in your vicinity. While these are mostly dependable, I like to experiment with attractive novelties.

After the hotbed is made and planted, the care of it is quite a chore—only a few minutes a day, but it continues through a number of weeks, when the weather may be extremely variable, the adjustment of the sash which seems best in the morning may not be suitable later in the day. Between my boy and myself, we manage that. He looks after them at noon and again in the evening if they need attention before I get back. In general I go on the principle that it is safer to have the bed a little cool than it is to run the risk of over-heating between morning and noon.—M. A.

---

A good inside paint where a gloss is not required, and one that will not rub off, can be made by mixing the dry color with sweet skim milk and applying as other paint. Ten cents' worth of dry color (some colors sell at but five cents a pound), with milk to thin, will cover as much surface as a dollars' worth of oil paint, and answers admirably where one is not justified in buying expensive paint, as is the case where one is renting by the year.

---

The bean harvest in Sutter county is about over.

**Eucalyptus**

We have ready for immediate shipment

**100,000 BLUE GUMS**

fine, healthy stock.
Write for our Eucalyptus circular.

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Specially prepared for cheap transportation and safe transplanting. Write for particulars to

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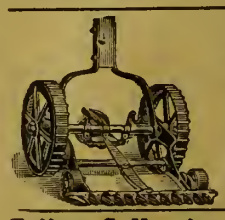

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Will cut tall grass and weeds and do all the trimming along the walks and drives. Your dealer should have them—if he has not drop us a line and we will send circulars and prices.
**Clipper Lawn Mower**
**Dixon, Illinois.**

**Feijoa Sellowiana** A most delicious fruit that can be used for every purpose that an apple is used. Strong plants 75c.

**Pleroma Splendens** with foliage of velvet and royal purple flowers, 75c.

**Avocado or Alligator Pear** Seedlings and budded trees. Many novelties in plants.

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**Trees Eucalyptus Trees**

For fall and early spring planting. Our interior valley climatic conditions make hardy plants. Best to ship. Best to plant. Our trees grow. Prices right.

**The Southard Nurseries**

**Redlands, Cal.**

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# THAT GROW

For 24 years we have supplied our customers in all States with Trees and Seeds that GROW. We carry a most complete line of **Fruit and Ornamental Trees, Berry Bushes, Roses, Perennials, Bulbs, etc.** Low prices. Best quality stock only. Pacific States varieties of Apples, best one year trees at $6.00 per 100. Peaches $5.00 per 100. We pay freight on $10.00 orders.

Also, very large and complete stock of **Farm, Vegetable and Flower Seeds** to select from. Write for big 112 page catalogue and Garden Book. Mailed FREE to anyone interested; also, free sample packet of "New Coreless" Tomato, the best of all tomatoes.

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**Box 54, Beatrice, Neb.**

## Strawberry Plants

**Bred in California**

Will yield more berries, and have fewer runners than eastern stock. Breeding plants carefully selected each year and not allowed to fruit.

## Superb--Everbearing

We have Brandywines, Jessie, Marshall, Burbank Beauty, Excelsior, Enhance or A1, Lady Thompson, Klondike, Mrs. Miller, Hummer, August Luther, Commonwealth and Pride of Cumberland.

Send Stamp for our elegant new catalogue containing description, prices and cultural directions.

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## Eucalyptus Seeds

In large or small quantities, 33 kinds to select from. Write for free pamphlet "Eucalyptus Culture." It gives full directions for sowing the seed, raising the plants and planting out into the field, together with descriptions of all the leading species, giving their uses and the localities to which they are adapted. Sample packets 15c each, 2 for 25c, 4 for 50c, 9 for $1.00. Choice Flower, Garden, Tree and Palm Seeds, Roses, Flowering Plants etc. Catalogue mailed free upon application.

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# Ornamental

### THIS MONTH.

BULBS which are not yet planted should be put into the ground as quickly as possible. Even early ripened gladiolus may be planted for spring blossoming. All Dutch bulbs should be in the ground. Amaryllis which bloomed early may be divided and given plenty of room in rich soil. Humboldt lilies, and other native bulbs growing in our mountains may be divided now and will be in good condition for the winter start. Any Watsonias which have not been planted should be at once before growth starts.

It is now in order to plant annual and perennial seeds. Those who wish beds of our state flower, the native poppy, may sow seeds in all waste places at this season.

Be careful not to let the ground get too dry. The days are short, and we sometimes think in looking out on the ground that it has enough moisture, but bear in mind that there have been no rains yet to reach into the lower depths, so that thorough watering should not be neglected.

Roses which were dried off earlier and have not started their growth, may be used for cuttings at this time, though it is possible that December will give somewhat better results. This is a good time to make cuttings of carnations.

Continue care of the lawn. If it has not been fertilized, give it a good application of bone or rock phosphate. If manure is applied, let it be well rotted to prevent growth of seeds of wild grasses as much as possible.

Plants that are not very hardy and liable to be caught by the early frosts may have water withheld to a certain extent so that they will not suffer great injury from cold, but let hardier plants have abundance of water until the soaking rains come.

Those in the "frostless" sections who have poinsettias, should keep them in mind from now on. Christmas time is when they are in their glory, and a little care on the cold nights will preserve this wonderful flower. Poinsettias are purely tropical plants and will not stand the frost, and a little protection will be appreciated by them.

### TRANSPLANTING WILD FLOWERS.

Wild plants may be moved even while they are in blossom, providing you are immensely generous in digging up the earth around them, and plenty of their own favorite mold remains around the roots.

To make the spot in the home garden as nearly like their own native home as possible, take up about 18 inches of soil from the bed where you propose to establish them. Lay at the bottom of this a 2-inch deposit of clay or spread broken shells and ashes to that depth.

On top of this spread the richest soil you can find. Mix it with rotten leaves and anything of that nature. Use very old manure if you cannot get old leaf mold. Fill in enough of this stuff to make the layer about 12 inches deep. This will leave about 4 inches to fill in. Get the black, spongy, rotten leaf mold from the woods or buy it from the florists who always have such mold on hand. To be perfect it should be coal black, as if it had been burned, and it should feel elastic and yet crumble away readily under the fingers.

A few stones buried just under this surface and a few others scattered around on top will aid in imitating natural conditions and retaining moisture.

If you are lucky enough to have a soil that is naturally very rich and black, it may not be necessary to do more than to add several inches of leaf mold and put in plenty of stones. Let falling leaves accumulate here and there on such a bed throughout the year.

Shrubs that have done blooming should be pruned at once. This induces blooming buds and branches for next year's crop.


# $1000 to $1500 Profit per Acre

Can be made on Crimson Winter Rhubarb. It is one of California's most profitable products. We make this statement after actual tests. We have made a study of the production of

## Crimson Winter Rhubarb

and find it easier to grow and less care and labor than corn or pumpkins. Plant an acre and reap an annual harvest of $1000 to $1500 or plant several acres and become wealthy in a few years.

J. B. Wagner

Better than a gold or any other mine.

Three Varieties of Rhubarb

***If you are interested and want to know more about this money maker, fill out the coupon attached, and mail.***

**Mail This Coupon Now**

Anyone having good land can get credit on plants. For full information and circulars, send this to

**J.B.Wagner, Pasadena,Cal.**

Name _____

Address _____

# Eucalyptus Trees for Fall Planting

It has been demonstrated in the San Joaquin Valley that the best time to plant Eucalyptus trees is about the first of November, or as soon as the rains have thoroughly soaked the soil.

We have 200,000 trees of various varieties just the proper size for fall planting. We would advise that you place your order early, as there are very few trees to be had at this time of the year.

## Aggeler & Musser Seed Co.

**113-115 N. Main St., Los Angeles**

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Trees Plants Bulbs

Just received new importation Holland Bulbs

HYACINTHS TULIPS NARCISSUS CROCUS IRIS

Plant Now

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# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, November 11, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

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## Nature Study

ANOTHER most helpful little book for teachers who wish to give their pupils clear ideas regarding plant growth, soil conditions, and other elementary facts regarding agriculture, has been issued by Prof. Riley O. Johnson at the head of the department of biology and nature study of the State Normal School at Chico. In this book the writer gives in connected form a suggestive series of experiments in elementary agriculture. Prof. Johnson makes no claim to originality in this book other than the bringing together in a most attractive and instructive way of material which should prove very helpful. The needs of plants for air, warmth, light, carbon, nitrogen, sulphur, and the preparation of these materials is given at some length. The method of supplying these needs takes up the greater part of the book. It closes with an excellent list of books recommended for more extensive studies along the same lines. Prof. Johnson's book should have wide circulation.

## Seek Help.

WHEN WE REALIZE the great advantage which the work of G. Harold Powell and his corps of workers has given to the citrus industry of the state, and we believe is now giving to the Tokay grape growers, we do not see why a suggestion to the peach growers may not be in order along the same line. There are points on methods of picking, packing, and shipping which these close observers could give that would mean thousands of dollars to our shipping interests.

It is possible the peach growers are waiting for the Department to see the need and come to the rescue. No doubt that would be done in due time, but if we remember rightly, the orange growers of Riverside did not wait for the Department to see their need, but so emphatically impressed it on the attention of Secretary Wilson that the help was soon furnished.

If you don't see what you want ask for it.

## Producer vs. Politician.

WE RECENTLY SAW in an eastern paper the statement, "There is nothing that so much stunts the growth of a man as a piece of political pie." We never heard the fact stated in exactly these words before, but its general truth is apparent to all who have observed the ways of the ordinary politician. It is astonishing that many a man, upright in his calling and respected among his neighbors, once having accepted political appointment, forsakes his former standards and adopts those of the ward politician. Why a man's moral growth is stunted by partaking of political pie is subject to various answers, but this is a discussion not of causes, but of effects as shown in the horticultural commissioner situation in this state.

Two counties in particular in the southern part have had experience along this line which does not tend to give the growers assurance that their interests will be cared for by the politicians; rather it indicates that the politicians are using this great industry to replenish the political pie counter.

We mentioned last week the efforts of the growers of Los Angeles County to secure relief from political domination, and now Orange county faces a similar situation. Applicants for the position in Orange county failed to pass the examinations with the exception of one candidate. Under the law, the board of supervisors should have appointed that one. He is said to be thoroughly competent, but he is not the particular individual whom the supervisors feel should be appointed to keep the machinery of organization in proper trim.

## Still Organizing.

STATE HORTICULTURAL COMMISSIONER Jeffrey writes us that a meeting along the line of the two already held in Placer County will be held in Vacaville. Especial attention will be given to the question of the appointment of a county horticultural commissioner which will enable the growers to produce better fruit. At the same time the Placer county plan of standardizing the fruits will be considered.

## Institutes.

J. B. NEFF, conductor of Farmers' Institutes for Southern California, announces institutes as follows: At Templeton, San Luis Obispo county, Nov. 18, forenoon and afternoon sessions, with a barbecue at noon. Lompoc, evening session Nov. 19, with forenoon and afternoon sessions on Nov. 20. Topics discussed, apples and peaches, dairies and cream handling and care in shipping.

## Clubbing List.

THE SUBSCRIPTION DEPARTMENT wishes to announce the early appearance of its annual magazine clubbing price list. Owing to lack of space, it is impossible to print it in this issue, or possibly the next, but it will be in the paper at the earliest possible moment.

In the mean time copies of the list will be mailed to any upon request. Just drop us a postal and it will be sent you by return mail.

The list this year is very attractive both in prices and quality of magazine listed. It offers a way to receive the best of reading matter with the Cultivator, at greatly reduced rate, and we wish to recommend it to all readers. It is our aim to make this an added attractive feature of the Cultivator and we do not doubt that it will be appreciated.

## National Apple Show.

THE NATIONAL APPLE SHOW opens its doors at Spokane, Washington, next Monday morning, and it is expected that the $25,000 premium list will bring together a wonderful showing of apples. The sweepstakes class carries a $1500 cash premium in the carload class, which will give the title of "Apple King of America" to the section winning it.

The Lafean apple packing and grading bill now before the United States Congress, will be discussed, and efforts made to prevent its passage.

## Control of Tuberculosis of Cattle.

(Continued from Page 459.)

It is interesting to note that tuberculin tests of these reacting animals repeated after an interval of three months showed that fully 25 per cent failed to react. Here is evidence of oscillation between an active and an arrested condition of the disease as indicated by the tuberculin test.

We cannot depend upon the tuberculin test to indicate the absence of tuberculosis in an animal. The fact has important bearing upon the matter of the purchase of animals subject to the tuberculin test with the idea of putting them in a clean herd.

In practice, by purchasing animals from infected herds we are bound to pick up cases of non-reacting, arrested cases of tuberculosis. These are temporarily harmless, but we must keep a vigilant guard to prevent their infecting the herd after they have further succumbed to the inroads of the disease. The only way to do this is to apply the tuberculin test to the herd every six months in any herd supposed to be free from the disease. It would be far better to purchase animals only from herds entirely free from the disease.

As a guide in locating such herds it would be well to bear in mind that there is much less probability of finding tuberculosis in a very small herd or in one which has been very thoroughly isolated from other herds. Animals from very large dairies are always to be suspected, for the very size of the herd increases the chance that infected individuals have been introduced. In one herd of 450 cows, my associate, Dr. C. M. Haring, tested fifty of the best looking cows with the result that 83 per cent of them reacted. Some years ago I had occasion to test 71 animals which were scattered about a town in groups of five or less. Of these only eight per cent reacted. Wherever extensive tuberculin testing has been carried on, the conclusion has always been reached that the larger the herd, the larger the percentage of tuberculosis, provided the disease is prevalent in the community.

Moore gives some interesting figures bearing on this subject of the purchase of animals subject to the passing of the tuberculin test. Ninety-two cows were purchased on the test in a district where the disease was prevalent. They were kept by themselves and tested every six months afterwards.

| Date | No. Tested | No. Reacted | No. Not Reacting | Per Cent Reacting |
|---|---|---|---|---|
| 1907 Jan. | ---92 | 0 | 92 | 0. |
| 1907 Aug. | ---92 | 3 | 89 | 3.3 |
| 1908 Jan. | ---89 | 24 | 65 | 26.9 |
| 1908 Aug. | ---65 | 4 | 61 | 6.2 |

Moore gives other instances showing the value of purchasing cows by the test from a tuberculosis free herd as compared with the results of cows from infected herds.

Tuberculosis can be kept in check in dairies by the testing of every animal purchased and by testing the whole herd every six months. This is being done in the certified herds in the San Francisco Bay region. It is not uncommon though to have the percentage of reacting animals go as high as seven. Any relaxation of viligance as manifested by the semi-annual testing would speedily result in the serious reinfection of the herd. The reactors must be detected early and removed before they become centers of infection.

It seems safe to conclude that there is little chance of success in separating a herd of tuberculous and non-tuberculous animals by means of the tuberculin test, especially if the herd is badly infected. The Bang method offers in such a case the only practicable method of getting out of the trouble. This, in the present form as stated by Bang, consists practically in starting a young herd of young stock fed on the heated milk of the diseased herd. The new establishment must be quite isolated from the old one. The method has a particular advantage in that it does not demand the slaughter of animals that have merely reacted to the test and which may be only slightly diseased.

# Agricultural News Notes of the Pacific Coast

## Northern California

One firm at Napa this year shipped 65 tons of hops to New York by water.

Several new buildings are being constructed on the University farm at Davis.

The orange crop of Northern California is estimated at 450 cars this season.

Sonoma county hops have been awarded a gold medal at the Seattle Exposition.

The first shipment from the northern citrus belt was made from Oroville, October 20th.

It is estimated that Fair Oaks, Sacramento county, will ship nearly 100 cars of oranges.

The Nelson ranch near Marysville, Yuba county, will soon be sub-divided and sold to colonizers.

The newly organized Placer County Farmers Union held its second session at Auburn last week.

The increase in the price of hops is claimed to add a million dollars to the wealth of Wheatland, Yuba county.

Mormon Basin, Colusa county, bean growers, are threshing their beans by piling over sheets of canvas and rolling them out.

Celery growers near Antioch, Contra Costa county, report this the banner year in the history of celery growing of that section.

Paradise, Butte county, claims the largest apple tree in the state. It is asserted that one year it bore forty boxes of Greenings which sold for two dollars a box.

A serious problem confronting the farmers of the Imperial county is the rapid spread of Bermuda grass which is proving one of the most destructive pests of that section.

A big reclamation scheme is under way by which 52,000 acres along the Sacramento and Feather rivers will be brought under cultivation. It will cost about six millions of dollars.

The executive committee of the Anti-Debris Association has information that hydraulic mines that have been closed for years are planning to reopen.

Reports of county horticultural commissioners filed with the state horticultural commissioner show the season to have been a most successful one, with few new pests to report.

A project is under way to utilize the waters of Cowhead Lake near Fort Bidwell, Modoc county, to irrigate sagebrush lands in Southern Surprise Valley. It is thought the scheme may bring 60,000 acres of land under irrigation.

F A. Meacham of Santa Rosa has received 25 head of prize sheep recently purchased for the improvement of his herd. He is justly proud, as some of them are grand prize winners in England and this country. The lot contains the eight largest rams owned by one person in the world. In the shipment are Rambouilets, Southdowns, American Dclaine, Hampshiredowns, and Shropshires.

## Central California

The farmers union held its annual state convention at Fresno this week.

O. C. Williams has been appointed deputy horticultural inspector for the Dinuba district.

Castroville is in with the latest suggestion for festivals and will hold a "Sauerkraut Fair" in the near future.

The Porterville Messenger says that the survey of citrus producing lands of that section shows nearly 5000 acres.

A firm at Hanford, Kings county, is making large shipments of pumpkin flour to Arizona and other southwestern points.

The Counties Committee of the California Promotion Committee will hold its twelfth semi-annual meeting at Visalia next Saturday.

H. C. Carr has purchased the Graham twenty acre orange orchard in the Sunnyside district, the purchase price being given at $30,000.

Watsonville fruit growers are making preparations for a big state fruit growers' convention which will be held in that city early in December.

The Tulare County Citrus Fruit Exchange will not rush their fruit to market this year, believing that the late November market will be satisfactory.

Pajaro Valley has already shipped over half of the estimated 3000 to 3500 cars of apples for the season. Every packing house in the valley is doing a rushing business.

Pomona Grange of Tulare county held a quarterly meeting at Visalia last week. There was a good attendance from the four local granges which constitute the Pomona.

The cold storage company which contemplates the erection of a plant to handle Pajaro Valley apples, is receiving subscriptions and getting in shape for early operation of the concern.

The packing houses of Porterville opened to receive oranges on November 1st. Some excitement was occasioned by the report that Japanese laborers would be employed, but an effort will be made to discourage such a step.

The raisin market has materially brightened and many sales have been made at two cents per pound, and it is now reported that the Consolidated paid two and a quarter. Many predict that the price will go to two and a half or higher.

A shipment of lemons to Porterville from Los Angeles was returned by commissioner Shultz, and this has stirred the anger of the shipper. The action of Mr. Shultz has been sustained, however, by the office of the state horticultural commission which reports live scale on the fruit.

W. E. Sprott, manager of the Tulare County Citrus Fruit Exchange, states that the story with regard to shortage of orange crop so far as the Porterville section is concerned, is much exaggerated. The normal production is in the neighborhood of 2500 cars, and this year's crop will reach that figure.

## Southern California

Coachella Valley is shipping quite extensively of egg plant.

Coachella Valley is sending a large amount of fresh figs to the Los Angeles market.

Orange County claims the production of $13,000,000 worth of agricultural products last year.

Huntington Beach reports that a much bigger acreage of sugar beets will be planted next year.

Ventura is already shipping largely of new crop walnuts having already forwarded fifteen carloads.

U. S. Grant has been made president of the company to promote the Worlds Fair to be held in San Diego in 1915.

Several apple packing houses have been constructed in the Oak Glen section near Redlands, San Bernardino county.

The Oxnard Courier reports the sale of 250,000 bags of beans up to November 5th, which breaks all previous records.

The California Development Co. is building a new cement drop in the main canal conducting the water from the Colorado River.

It is reported that the cabbage crop of Orange county will be less than half that of last year, or in other words not much over 150 cars.

The Claremont Pomological Club will hold its next meeting at the home of Miss Stratton north of Lordsburg, on Monday, November 22nd.

Imperial Valley cotton growers are greatly elated over their cotton experience this year. Over a bale to the acre is said to be the average.

The Chino Land & Water Co. has moved 3000 head of cattle from hill pastures to corrals near the factory where they will be fattened on beet pulp.

The bean growers of the four southern counties of Santa Barbara, Los Angeles, Orange and Ventura, are maintaining a co-operative marketing organization which has made much money for its members.

The sugar factory located at Chino, San Bernardino county, closed for the season on the morning of November 4th with a record during the campaign of 79,562 tons of beets which made a total of 22,277,360 pounds of sugar.

The Orange county board of supervisors are in a muddle over the appointment of a horticultural commissioner for that county. The examination held by the state board of examiners resulted in only one candidate passing, and as that candidate was not agreeable to the commissioners, the appointment has been held up.

The suits of the Anderson-Barngrover Co. against various walnut associations of Southern California. have finally been compromised by the payment by the growers of $10,000. It is claimed that this carries with it the settlement for $23,000, a judgment for which was formerly secured against the Fullerton association.

## The Coast

Owing to low price of potatoes, growers of spuds at Pullman, Washington, are storing.

Farmers of Olathe, Colorado, are demanding 800 cars for immediate shipment of potatoes.

A reservoir has just been constructed at Council, Idaho, which will reclaim a 4000 acre tract.

A Montrose, Colorado, apple grower has netted $500 an acre this year on his ten acre apple orchard.

Apple growers of eastern Washington, have adopted the slogan, "An apple a day keeps the doctor away."

A lodge of the Patrons of Husbandry has been organized amongst the students of the state college at Pullman, Wash.

Wenatchee Valley, Washington, fruit growers will make a large showing of apples at the National Apple Show at Spokane.

Farmers under the Cascade Canal, near Ellensburg, Washington, are planning an expenditure of $300,000 in improving their water system.

"Apple, Rex II, King of the World of Fruit," has issued his invitation to his second grand reception to be held at Spokane November 15th to 20th, 1909.

"The finest oranges ever grown in Yuma Valley," is the report of the Yuma Heights Fruit Co. They are already being shipped to eastern markets.

A tract of about 4000 acres in Latah county, Idaho, yielded four million pounds of peas this year for which the growers received three and a half cents.

Farmers around Pullman, Washington, will plant extensively of flax because of good prices received last year, the price ranging not far from $1.30 per bushel.

Colorado is generally thought of as a mining state, but the government reports show this year that only four surpassed it in the growing of oats and five in wheat production.

The sheep men of Arizona made a better showing of sheep at the state fair held at Phoenix last week than any year previous. In all there are ten breeds of sheep exhibited.

A sale of from thirty to forty thousand boxes of apples was made by the Horticultural Union of North Yakima. This is one of the largest apple deals ever made in the valley.

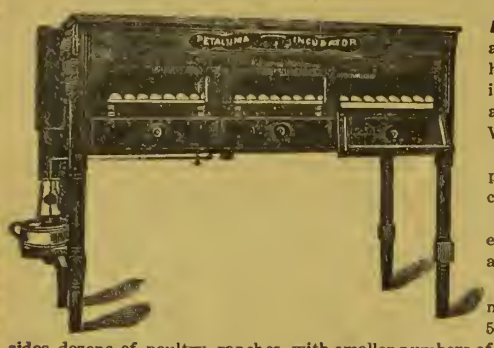
The Wenatchee Canal Co., which controls the canal conducting the water to its lands, a distance of over forty miles, will spend $75,000 in irrigation improvements before the next season opens.

An apple grower at Grand Junction, Colorado, has made affidavit that he harvested from one apple tree a ton and a half of apples which he sold for one hunred dollars. The tree is ouly twelve years old.

James J. Hill remarked in an address at the Dry Farming Congress at Billings, Montana, this week, that American farmers should be careful in holding back their wheat thus possibly favoring the wheat growers of the Argentine Republic.

# Petaluma Incubators and Brooders

***Awarded GRAND PRIZE at Alaska-Yukon-Pacific Exposition, Seattle, Wash.; Two First Prizes and Silver Medal at the late California State Fair***

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We have equipped all the big poultry plants and have several contracts to complete before January 1st, 1910.

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We have stated before and we ***again*** state that more Petaluma Incubators and Brooders are used than all other makes combined in Petaluma and all that great section of the country west of the Rocky Mountains, which is more than one-third of the entire United States, and the Petaluma is fast reaching a similar position among Eastern poultrymen. As rapidly as its merits become known does it supplant all other kinds.

## Midland Poultry Feed

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Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

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# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90, 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

## West Coast Mill

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# STANDARD EGG FOOD

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Eggs for hatching September 1st '09. Write for circular.

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# Profit in the Poultry Yard

We solicit short articles of a practical nature from the farmer and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

### FITTING BIRDS FOR THE SHOW ROOM.

By Mrs. Frank Metcalf.

TO have them in the very best condition for showing, the sexes should be kept separately, lest the hens plumage be soiled and marred.

A pullet that is just ready to drop her first egg is in the best show condition she ever will be, in most breeds, particularly so of the bright-colored ones.

It is well to handle the birds you wish to show daily, at the same time smoothing their plumage, which gives it a luster obtained in no other way.

If you don't wish to wash them, place in a coop containing a deep litter of clean straw, free as possible from dust, in which all their grain should be thrown. This will induce exercise, which brightens their combs, and cleans their plumage so that washing may be confined to the legs and feet, with a little grooming of earlobes and combs, which may be done with camphorated vaseline, a little of which may be rubbed well into the feet and legs after washing and drying, polishing carefully afterwards, lest it catch the dust.

Sunflower seeds and good whole corn is valuable at this time, and bread and milk is used by some. Fishel & Son, Hope, Ind., feed cooked rice three times a week with grains, stale bread and milk.

Old birds should be separated as to sex as soon as the breeding season is over, and well fed and attended to during the molt. Old and faded feathers must be removed by plucking, if not dropped before the show, as they cause a mottled appearance greatly to the birds' disadvantage. Plucking old, dead feathers, is not faking, but professional conditioning. Faking is "a bird of another color," and I do not intend to give any hints of how it is done, for it is the worst kind of "taboo" at present, and the fellow who gets caught at it is forever disgraced. And I hope every guilty one will be caught.

For shipping coops, use them large, light and strong, 30 inches is none too high for our large breeds, and do not put males and females in the same coop. Be sure to send only those that are uniform in color, shape, etc., and sponge the plumage nicely the last thing before you place them in the coop to ship.

If water is needed during their trip, place a cut apple or potato in the coop instead, as the water may be spilled and soil the plumage. Be very careful to get the dirt all out from under the scales on the shanks, using a toothpick, if necessary. Bright, clean, glossy shanks and feet attract attention and favorable comment, as do bright red combs and wattles. The camphorated oil or vaseline will give these a fine appearance that will last through the show, as a rule, although many use a wash of alcohol in preference.

Do not be discouraged if you do not win the blue the first time, but carefully inspect the winners and try to see wherein yours may be improved. Handle the birds at all times with great care lest feathers be lost or broken, for the judge must cut for each broken or missing feather, in wings and tails, unless he is over lenient and gives the specimen the benefit of the doubt. Study the Standard, and use your own judgement in selecting your specimens, but remember that you won't find any 100 point birds to show against, so do not fail to show good birds because of a few defects, which will only call for cuts in the section where found. Have confidence in your ability as a breeder and take the best possible pains to make the most of every showable bird you own, win what you can, with the determination to win more another time, for the show-room is an educator in more ways than one.—Mrs. Frank Metcalf.

### BANTAMS.

Bantams are the delight of children. But they are not simply ornamental. They occupy but little space, eat little feed, lay lots of little eggs and furnish a little roast, but they get there just the same when everything's counted with the big breeds, says one of their admirers. The little 22-ounce hens are used for hatching pheasant and quail eggs.

Breeding bantams is most interesting. There are active bantam clubs, and a large number of men are specialist breeders, as well as ladies and boys.

There are those called bantams that are simply dwarfs of large fowls. Such are the Black Rose Comb (miniature Hamburgs), the Games, Cochins, Brahmas, Polish, Malays, Silkies and Frizzles. But the Sebrights, Booted Whites and Japs are distinctly original and are in a class by themselves.

There are 25 varieties in American pygmy poultrydom, and the Sebright in gold and silver is most popular. John Sebright brought the first from India 100 years ago.

He succeeded in breeding them into a marvel of grace, beauty and sprightliness. Strange to relate, the male and female are laced exactly alike, and this lacing in all sections makes them a striking exception, and their low wings and wide-spreading tails increase their beauty. The only difference in Sebrights is that between gold and silver. Otherwise they are identical. The Golden Sebright is more common.

These attractive little birds have bright red rose combs, face and wattles, bay eyes, golden yellow feathers evenly laced with black, and undercolor, shanks and toes, dark slate; breast prominent; tail in both sexes the same and without sickles.

Standard weights—Cock, 26 ounces; cockerel, 22 ounces; hen, 22 ounces; pullet, 20 ounces.

Unlike diamonds, the smaller the bantam the more precious. A long season for development means large birds. Therefore hatch for shows in June and July, and August for regular breeders.

### LICE EAT EGGS.

Did you ever know that lice eat eggs? It's a fact. They eat them before they are made by sucking the bird's blood, and diverting the egg-making material from its proper channel.

If every producer of eggs in this country were to take absolute precaution against marketing a single bad egg, and would grade his eggs according to size, color and quality, before marketing, not only would his profits at once be considerably enhanced, but the growth in egg consumption would be so large and so rapid that much higher prices would prevail over and above the bonus for special quality. Think this over.

### LET FOWLS HELP THEMSELVES.

We have heard a great deal about balanced rations during the last few years, balanced rations for cows, for feeding cattle, sheep, hogs, human beings and poultry, until a good many people really believe that a great deal of feed is wasted unless it is properly balanced and contains due percentages of protein and carbohydrates.

Professor Haecker gave some of the theories about balanced rations for cows a sad knock by proving that it is not necessary to feed dairy cows so carefully, and Professor Davenport said to me one time that it was often good economy to waste a little cheap feed rather than buy a costly

**Coulson's POULTRY FOODS**

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A scientifically prepared food like

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***Toulouse Embden***

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Fine Toulouse Ganders for sale at $4.00 each.

Send your order at once for the best stock in the west.

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For the want of system many a farm is a failure.

**POULTRY SHOWS.**

**San Jose, Nov. 9-13, 1909**—Chas. R. Harker, Secretary, San Jose.

**Alameda, Nov. 22-27, 1909**—C. G. Hines, Secretary, Alameda.

**Petaluma, Dec. 8-11, 1909**—H. R. Campbell, Secretary, Petaluma.

**Los Angeles, Jan. 5-11, 1910**—Annual Meeting Poultry Breeders' Association of Southern California at Chutes Park. S. E. Salisbury, Secretary, Monrovia.

**San Diego, Jan. 11-15, 1910**—J. F. Goforth, Secretary, San Diego.

one in order to make a balanced ration.

Mapes, of New York, announced that he was a heretic as far as feeding balanced rations to poultry, by telling how he gave his hens a mixture of all kinds of feed and let them select what they liked best.

While I have never tried to feed scientifically balanced rations to my poultry, I have roughly guessed at the proper feeds so the hen might have enough protein to produce eggs and carbohydrates enough to prevent the waste of protein, and have been very well satisfied with the results.—Poultry.

## NOTES OF THE POULTRY-YARD.

Change the pens of the ducks and sow the unused ground with rye or barley.

To fatten ducks do not allow them to have access to a swimming pool, as the exercise of swimming keeps them down.

Never sprinkle wood-ashes on the floor of the chicken house as it causes foot trouble. Use fine coal-ashes.

Just about now the surplus cockerels are beginning to eat their heads off. Sell them.

Plenty of fine dry dust in the roads now. Better lay in two or three barrels for winter use.

The often neglected youngsters should be supplied with plenty of shade during hot weather.

When feeding grain throw it broadcast all over the lot so that all the birds may have an equal chance.

Did you know that a turkey hen with a brood, if allowed her freedom, will seek a new roosting-place every night?

Turkey hens with poults do not thrive in closed board houses. Knock out the side boards and replace with wire netting.

Open turkey houses can be shut up during rain storms by leaning boards against the sides.—Ex.

## SOUTHERN CALIFORNIA SHOW.

The Poultry Breeders' Association of Southern California will give its annual show in Chutes Park, Los Angeles, Jan. 5-11. Judging will be by comparison, contrary to the former custom of this association. The members have heretofore preferred score card judging. It has been decided to do away with double entries, and all birds will be exhibited singly. A large showing of high class birds is expected. S. E. Salisbury of Monrovia is the Secretary.

An El Paso county ranchman finding a motor-horn in the road, took it home and determined to turn it to some wise use. So he taught his poultry to gather for meals at its toot, and all Nature may be said to have smiled until one morning a motor-car passing the farmyard blew a loud blast. The full strength of the poultry yard instantly ran out into the road, and began to pursue the car with all the ardor of railway travelers jumping off at Palmer Lake for lunch. At the end of the fifth mile fourteen pullets and three roosters succumbed through exhaustion. The others are still running.—Field and Farm.

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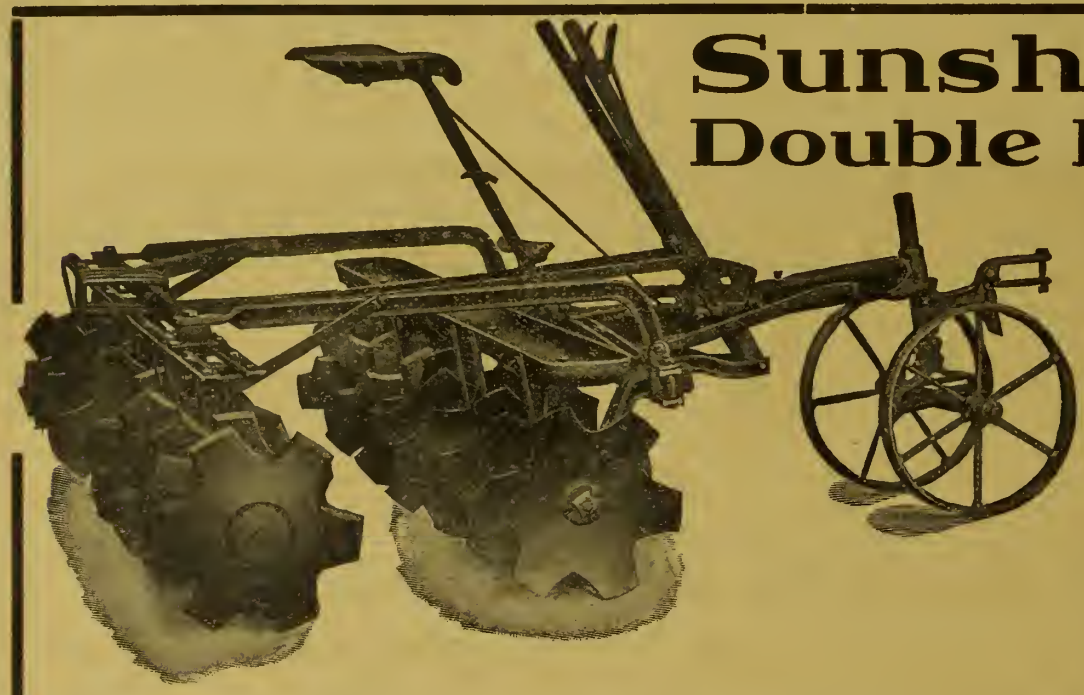

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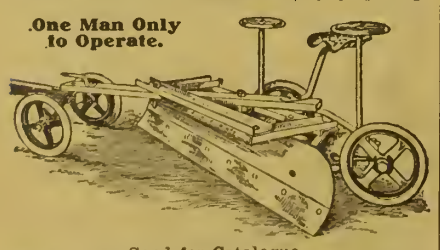


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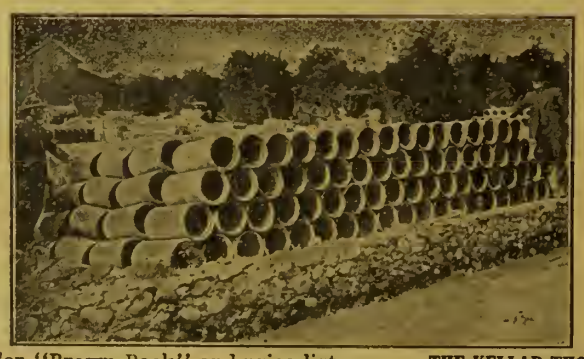

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## Bees

### KEEPING A SMALL COLONY.

OF ALL the sweets, none is more wholesome and delicious than honey. There is a scientific reason why it is more easily digested, and can often be eaten to advantage when other forms of sweets must be avoided. Chemically speaking, the nectar of flowers is largely cane sugar, but, in the ripening process, the changing of the nectar into honey, the bees use an acid secretion that changes most of the cane sugar into grape sugar, which change is identical with the first step of digestion in the human stomach when it starts out to digest cane sugar; hence, the body is saved that much labor. In reality, very little work is necessary in the digestion of honey—it is nearly ready for assimilation.

When bought in the comb there is no possibility of honey being other than absolutely pure, and, since the enactment of the pure food laws there is not much likelihood of liquid honey being adulterated, yet there is no reason why the majority of families might not find pleasure and profit in furnishing their own table with honey, by the keeping of a few bees; just as so many add to their incomes by the keeping of a few fowls. In fact, bees may be kept where it would be impossible to keep fowls for lack of room—up in the garret of a residence, they flying out and in under the raised sash of a window, or through openings cut in the walls. Men who are scientifically inclined ofter have an observatory hive of bees in their sitting-room or office.

The fear of stings probably deters thousands of people from enjoying the pleasures and profits of bee culture. Did they but know it, with sufficient care these stings can be entirely avoided; with only a little care, they can nearly all be prevented. The hands can be protected with rubber gloves, and the face and neck with a veil. Just a few words about the construction and adjustment of the latter. Get some open material like mosquito netting, or silk brussels net, and make a sack perhaps 15 or 18 inches in diameter and 20 inches in length. Into the hem at one end run a piece of rubber cord puckering up the end of veil until it will just nicely slip on over the crown of a hat, then tying together the end of the cord. Use a straw hat; slip the veil on over the hat; pull the lower end of the veil down around the neck, and tuck it inside the collar. When bees are gathering honey they are not inclined to sting, especially if a little smoke is used, but it is well for the beginner to protect himself until experience has inspired confidence.

Mention has been made of the use of smoke, and it may be added that, without the use of smoke, the handling of bees would be almost impossible. Smoke blown upon them terrifies them and sets them to filling their sacs with honey, when their inclination to sting is practically removed. Smoke can be obtained by igniting one end of a piece of rotten wood, or of a roll of cotton rags, and the smoke blown among the bees by means of the breath, but this plan is dangerous and unpleasant, and bee keepers use what is called a "bee smoker," consisting of a little tin stove, perhaps three inches in diameter, six or seven inches in height, furnished with a conical cover having an opening at the apex. Attached to one side of this little stove is a bellows with an opening near its lower end, opposite a similar opening in the stove. A fire of rotten wood or rags or some similar substance is made in the stove, when, by means of the bellows, the stream of smoke can be blown among the bees. It is an easy matter to drive a stream of smoke some two or three feet from the nozzle. When the fire is going nicely, a puff of smoke is driven into the entrance of the hive; then the cover carefully raised and a puff or two driven down among the bees, when any necessary work may be done with little danger of stings, provided the motions are slow and care-

fully made. If the bees show signs of any "obstreperousness," a puff or two of smoke will drive them back in dismay.

The location of an apiary, especially if it is to be near a dweling, is quite important. What is needed is a high board fence, or a hedge, or a screen of vines, or something of a similar nature, behind which to set the hives. In leaving for the fields or returning to their hives, the bees must rise above this obstruction, and this throws their "line of flight" above the heads of passersby. When the hives are kept in a garret, as already mentioned, the line of flight is, of course, far above the heads of people, and there is no trouble.

People thinking of taking up the keeping of bees are often interested in knowing if there is anything that they can plant in their garden that will yield honey for the bees. Of course, something might be done in this direction, but it would scarcely be a drop in the bucket compared to what the bees must have to be able to store any surplus. They fly far and wide, gathering nectar profitably miles from home. They visit the fruit bloom, white clover, the linden trees, if there are any in the vicinity; fields of buckwheat or of alsike clover, the golden rod and wild asters in the fall, and, even in a large city, seem to be able to pick up a living from the various plants that are in bloom. Men who engage in the business extensively usually seek some location that furnishes abundant bloom of the most desirable variety, but there are few localities in this country that would not profitably support a few colonies of bees.

One most important step is in getting the bees to make a start. As a rule it is better for the beginner to buy his bees of the nearest reliable beekeeper who has them to sell. Black bees in box hives can usually be bought much cheaper, but the work of transferring them to a movable comb hive and introducing an Italian queen is the work of an expert, and the novice might meet only disaster if he attempted this line of work. Bees can now be sent long distances safely by express, hence there is no excuse for taking up with a poor strain of bees in any old rattletrap of a hive. Get Italian bees in a good, movable comb hive of some standard pattern. When they come by express, set the hive down where it is expected to stand, light the smoker, and don the veil and gloves, all of which should be provided in readiness; blow a little smoke down through the wire cloth that covers the hive, then pry off with a screwdriver any block or stick that closes the entrance. Accompanying the outfit there will be a wooden cover for the hive. It may be fastened to the under side of the hive. Before opening the entrance it may be well to find this cover and detach it, and lay it over the top of the hive upon the wirecloth. After the bees are released leave them undisturbed for several hours, perhaps for a day or two until they have recovered a little from the effects of their journey and the confinement, when they will be in better humor. Use smoke when opening the hive again. With the screwdriver pry off the wirecloth. If the ends of the frames are nailed fast to the hive, pull out the nails with a hammer or some pincers, when, if you see fit, you can carefully lift out one or two of the frames of comb and gaze upon the wonders to be found inside a beehive.—Ideal Homes.

## 'TIS DISTANCE LENDS ENCHANTMENT.

An exact definition of a gentleman has been tried many times, never perhaps with entirely satisfactory results. Little Sadie had never heard of any of the various definitions, but she managed to throw a gleam of light on the subject, albeit one touched with unconscious cynicism. The word was in the spelling-lesson, and I said:

"Sadie, what is a gentleman?"

"Please, ma'am," she answered, "a gentleman's a man you don't know very well."—Woman's Home Companion for October.


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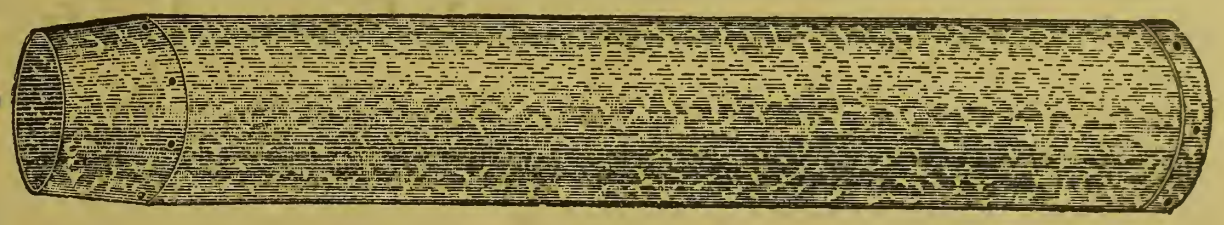

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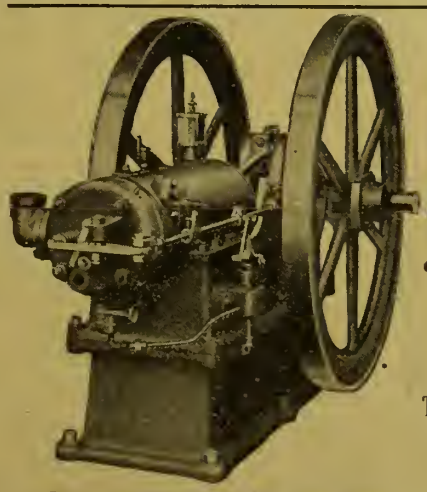

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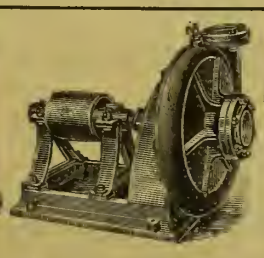

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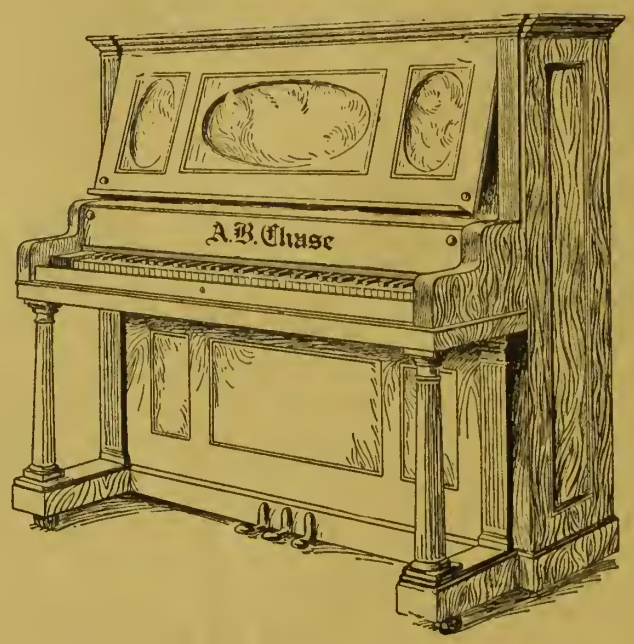


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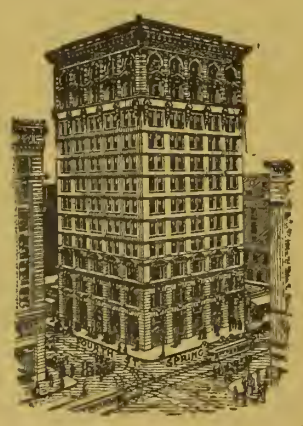

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# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Commercial Fertilizer with Cover Crops.

In fertilizing walnuts with commercial fertilizer where cover crop is used, what would be the maximum amount and what kind of fertilizer would you advise using in old orchard? Would you advise sowing fertilizer before cover crop seed, and with walnut trees is there any injury liable to result from irrigating about the middle of November?—A., Tustin.

If a good green manure crop has been grown in the walnut orchard for several years past, I do not think anything more than acid phosphate is needed. I am applying about 400 pounds per acre of acid phosphate running 17½ per cent available phosphoric acid on seventeen year old trees.

I sow the acid phosphate just before plowing under the green manure crop and want to do the plowing before any rain has fallen on the acid phosphate, so that when the water reaches the soluble phosphoric acid it will go down among the tree roots before it reverts, and not be in the soil that is turned back and forth by the plow and cultivator.

If your trees are carrying their foliage well there is no danger in irrigating and putting in the green manure crop at once. Neither is there any danger if the trees have matured their leaves and the leaves have fallen but recently.—N.

### Sowing Vetch.

Is it too late to sow vetch seed, and how should it be planted?—N., Los Angeles.

Vetch seed should be planted at once, first watering the ground thoroughly and cultivating to make good seed bed. Plant with drill, then harrow the ground well, and finally furrow as if for the irrigation. This will disturb some of the seeds. but sufficient will grow to make a stand. In the orchard 40 pounds of seed will be sufficient per acre; if broadcast, ten pounds more to the acre should be sown.

### Best Green Manure Crop.

What is the relative value of vetches and fenugreek for green manure crop for orange orchards?—N., Los Angeles.

Vetch has been giving the best results in the orchards. The tonnage (green) of about ten samples of vetch last spring, gave 23,385 pounds per acre, while fenugreek gave 7211 pounds per acre. The fenugreek gave a slightly larger perecentage of humus forming material, but when the difference in tonnage is considered, the vetch is much the better.

The vetch should be sown as soon as the ground can be irrigated, as if it gets a good start before the cool weather comes, it will continue to grow in the winter and be ready to plow under about March 1st. Forty pounds to the acre when all the ground is covered will be enough if it is properly put in.

### Replanting to Softshells.

I have a number of acres in hardshell walnuts, also some in softshell and alfalfa. I wish to remove the hardshells and sow alfalfa, ultimately planting to softshell trees. I am advised to plant alfalfa giving the roots of the hardshells time to rot out before planting the softshell. Is this good advice?—S., Los Angeles.

One year would not be sufficient time to allow the old roots to decay, or rather they would be more detrimental the second year than the first. If in taking out the old trees, you take out the old roots for a distance of six feet from the body of the old tree, you can plant at once. Plant nothing but grafted trees that are strongly resistant to blight and good producers. You cannot be sure of anything with seedlings, as some may be good and others worthless. You will find it advisable to plant not less than 60 feet apart, or you may plant two year old native black walnut trees in orchard form, then when they are large enough to graft at the height of six feet, have them grafted to the best producing, blight resisting walnut you can find. You will lose nothing in production, and will have trees that will not sunburn on the sides. You ought to get trees that have a record of producing not less than 150 pounds each at fifteen years.

**See "Cow Talks" in another column.**

### Time of Planting Walnuts.

What is the best time of the year to set out two year old black walnut trees?—J., San Francisco.

Your replanting can be done at any time after the leaves have fallen and before the buds begin to swell, but it is best to have the planting done early enough to have the rains thoroughly settle the ground around the roots of the young trees. It would be well to have the planting done in January, if possible to find the ground in condition to work on it, and not later than March in any event. If there should be no heavy rains after the planting, the trees should have enough water poured around them to settle the earth closely around the roots.

### Vetch for Seed.

I wish to try growing vetch seed, and ask if it is too late to plant. How much seed is necessary per acre, and what nurse crop would you advise? What soil is best adapted for such crop?—Subs., National City.

It is not too late to sow vetch seed now. The land should be watered and plowed, then well worked down and the vetch put in with a drill, using about 50 pounds of vetch and 40 pounds of wheat to the acre. If wheat rusts badly with you it might be best to sow oats as a crop to hold up the vetch, but wheat is the more readily separated from the vetch seed.

The soil best suited for vetch is sandy loam. It would be well to inoculate the vetch seed by taking some soil from a place where vetch grew well last year, pouring water over it, stirring it and then using the water to dampen the seed. The vetch will grow slowly when the weather is cool but will probably be ready to harvest by May 1st.

### Length of Tap Root.

I have purchased a bunch of grafted walnut trees and reliable party has told me that eighteen inch tap root is as good as one longer. I have had an idea that two feet or more would be valuable. It this the case?

I have also been told that if the holes are dug deep and then filled up to the point where the tap root should touch the soil, and loose dirt thrown about the roots, that it should not be tamped, that the rains and next summer's irrigation would settle the dirt sufficiently. I have always believed that the dirt should be thoroughly packed about the roots. What is your opinion?—Subscriber, San Francisco.

The length of tap roots on nursery walnut trees depends altogether on the kind of land on which they grew but I would like to have three foot tap roots if they are on the trees. The trees will do equally well with a short growth of tap root if they have plenty of laterals, but if the tap root is there, it should be left as long as three feet, and the laterals should be at least eighteen inches long.

There is no danger of getting the holes too large in diameter, but they are dug much below the bottom

of the tap root and filled loosely, without any packing, there is danger that when the water gets in and settles the soil, it will take the tree down until it will be planted too deep. If you can have the soil in a condition so that it will crumble, and then place it around the roots with the hand, spreading the roots well and packing as well as can be done by hand, you will be more likely to have the tree where you want it when the water gets around it. The hole should be filled to the top, except to leave a shallow basin to catch the rain if you depend on that, or to hold the water that you may pour around the trees. In any case, do not place the soil in the hole loosely and leave it, if the weather is at all drying.

### Fertilizer Proportions.

Kindly tell me how to mix fertilizer at home suitable for orange trees, in about the proportion of 3.65-7-3, using guano, nitrate, lime, superphosphate, sulphate of potash, and tankage.—M. F., Pomona.

With no compositions given I would assume the guano to contain 6 per cent nitrogen, 12 per cent phosphoric acid, nitrate of soda 15 per cent nitrogen, superphosphate 18 per cent available phosphoric acid, sulphate of of potasn 46 per cent potash and tankage 5 per cent. nitrogen and 20 per cent phosphoric acid. I would use no lime without a good specific reason. The acid phosphate and tankage will furnish plenty of calcium for plant food and it is a rare exception that we need the lime for its alkalinity. A 10-acre grove will probably need in one year about 1250 pounds of actual nitrogen, 2500 pounds of available phosphoric acid and 1100 pounds of potash. To obtain the nitrogen use 5000 pounds each of guano and tankage and 4667 pounds of nitrate of soda. By adding to these three ingredients 5000 pounds of superphosphate the 2500 pounds of phosphoric acid is obtained. Twenty-four hundred pounds of sulphate of potash will furnish the potash. This gives a total weight of 22,067 pounds containing 5.62 per cent nitrogen 11.33 per cent phosphoric acid and 4.94 per cent potash which is approximately in the ratio of 3.65-7-3. It is absurd to add sand or other inert material to lower the percentage. This mixture should be used in about four applications during the year or what is still better use these ingredients separately and not in the form of a complete fertilizer, but have the sum total at the end of the year to equal a complete fertilizer.—J. H. Norton.

### Birds Eat Peas.

What can I put on my growing pea vines to prevent birds from eating them up? They are about four inches high and the birds clean off every row—N. E. M., Santa Ana.

I know of nothing practical for small gardens except an "A" shaped frame made in convenient lengths—say 16 feet and covered with cheese cloth and placed over the rows until they grow large enough to be beyond the birds' power to destroy. The apex of the frame should be about 12 inches high. Three frames to a 16 foot length would be sufficiently strong. Nail narrow strips on these frames, made from one-half-inch battens ripped into two pieces. Three strips to a length will be enough—one at the top and one on each side at the bottom. With reasonable care these frames will last for years and many times repay their cost.—Q. A. L.

### Raisins for Stock.

Are the stems and cull raisins good feed for stock? What is the result of feeding them?—M. G., San Diego.

Raisins are an excellent fattening food for practically all stock, and when culls are not bringing a living price many growers have disposed of them in that way and made money.

### Celery Seed.

Please give time of sowing celery seed, length of time from sowing to maturity and the most popular variety.—W. W., Beaumont.

Celery seed is usually planted in March, April or May. It requires from three to four months from sowing of the seed until plants are large enough for field planting, time, of course, depending upon the season. Field planting is usually done about June or July and harvesting in the later fall months. We believe the most popular variety in Orange county is the White Plume.

### Goat Manure.

Is goat manure good for the garden?—C. A., San Diego.

It is practically the same as sheep manure which is selling in Los Angeles at almost two cents a pound. This is more than it is worth, but it is very valuable for the garden.

### Gypsum.

I note that you use gypsum in the stalls and on the manure after it is taken out. Will you please tell me the object of using it.

I have a lemon orchard in black loam soil inclined to run together and get solid after irrigating and plows up in chunks. I have been told to use gypsum to loosen it up, but can't find out the quantity necessary?—G. W. B., Santa Ana.

The use of the gypsum is to hold the nitrogen, one of the most valuable of the fertilizing elements of the manure. It also acts as a deodor-

(Continued on Page 479.)


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$60.00 per ton.
For a short time we will sell Sulphate of Potash at $60.00 per ton.
This is the right time to apply it for maturing the crop and the new growth of wood.
This price won't last. Get your supply now from the Armour agent in your district.
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SAGE HONEY, GUARANTEED ABSOlutely pure. One 5 gal. can, crated, f.o.b., $4.25, two 5 gal. cans, crated, f.o.b., $8.00. HENRY E. HORN. Riverside, Cal.

### HOMES FOR CHILDREN.

HAVE YOU A BOY? IF NOT, LET us send you one. We want country homes for boys of all ages. Arrangements to suit. CHILDRENS' HOME SOCIETY, 2414 Griffith Ave., Los Angeles, Cal.

### MISCELLANEOUS.

THE ANCHOR EGG SEPARATOR works perfectly; no well regulated hotel or household can afford to be without it." So says Delmonico's Chef. Send ten cents or ten names of persons keeping poultry, and we will send one postpaid. Or for 25 names we will also send postpaid "THE POULTRY MANUAL" by those high authorities, F. L. Sewell and Ida R. Tilson, profusely illustrated. WEST COAST MILL CO., 705-709 So. Griffin Ave., Los Angeles, Cal.

DRIED FRUITS FROM PRODUCER to consumer, packed in 50-lb. boxes, F. O. B. Banning. Plums (pitted), 8c per lb.; Pears, 9c; Apricots, 11c; Peaches, 7c; Prunes, (70 to 80), 5c; Prunes, (50 to 60), 6c; Raisins, (Sultanas), 5c; Raisins (2 Crown), 4c; Raisins, (3 Crown), 5c; in 25-lb. boxes, ½c lb. higher. CHAS. W. MIXTER, Banning, Cal.

A LABOR SAVER FOR WOMEN. Send 10 cents for three weeks trial. Electric Laundry Compound, washes clothes without rubbing. Saves time, labor, and clothes. No lime, lye or acids. Eight washings 25 cents. Money back if not satisfied. ELECTRIC COMPOUND CO., 823 S. Spring St., Los Angeles, Cal.

ONION SEED—THE AUSTRALIAN Brown is the onion for California, as it is the best keeper known. Our seed is the famous Maule Strain, 408 sacks grown this year from 1½ acres. We grow but one kind and guarantee them true to name. Price $1.50 per pound. Send orders to E. F. EDE, Kingsburg, Cal.

PRODUCER TO CONSUMER. RAISINS, loose Muscatels, (2 and 3 crown) in 50-lb boxes, 3 cents, F. O. B., Etiwanda, good quality, send for sample. A. H. DUGDALE, Etiwanda, Cal.

FOR SALE—APPLES, BELLEFLEURS, 4 tier 80c, 4½ tier 65c. Wanted raisins, honey, garvanzas, lima beans, peanuts, almonds, walnuts. JOHN HART, Watsonville, Cal.

FOR SALE—AN OPEN TOP SURREY at half price, cost $150, practically new. Call or address H. A. Perkins, 1732 Monterey Road, South Pasadena, Cal.

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FOR SALE—RHODE ISLAND REDS (Tompkins Strain), Rose and Single Comb Black Minorcas (Northrup Strain), White Minorcas. Day-old chicks hatched to order, and eggs in season. C. U. CHAMBERLIN, Los Gatos, Cal.

FOR SALE—CHINESE PHEASANTS $5.00 a pair. Chinese Silkies, pullets $1.50, cockerels, $2.50. MRS. R. S. SPAULDING, 533 Walnut St., Woodland, Cal.

TWO THOROUGHBRED MAMMOTH Bronze toms for sale or exchange. MRS. GEO. H. ANDREWS, Box 353, San Luis Obispo, Cal.

FOR SALE—PLANS, SPECIFICATIONS and photograph of the "20th Century Coop" $1.00. Mrs. A. J. BADGER, Oxnard, Cal.

TWO BRONZE TURKEY TOMS, APRIL hatch. Fine, large birds. $5.00 each. BOX 16, Santa Cruz, Cal.

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STRAWBERRY PLANTS— FINE ONES Grown and restricted in regular propagating beds, Kellogg system. Planted in November they will pay well in April. 60 cents per 100, $3.00 per 1000, prices on large orders or to the trade on request. J. A. POWELL, Ripon, Cal.

DOLLAR STRAWBERRY PLANTS. Strong, healthy runners, grown on new land. Price $3.00 per 1000, special rates on large quantities. Plant now to insure a good stand. A. H. BRYDGES, Loomis, Placer Co., Cal.

STRAWBERRY PLANTS FOR SALE— Vigorous and well rooted plants. Brandywine variety considered standard for coast. $2.50 per 1000. Address JOS. L. OSBORN, Gridley, Cal.

### WANTED.

WANTED—HARDSHELL ALMONDS for seed purposes. Address, FANCHER CREEK NURSERIES, Fresno, Cal.

### FARM LANDS FOR SALE.

FOR SALE AND EXCHANGE—160 acres of choice level land in the San Joaquin Valley, free from alkali, hardpan or washes. Must have some money quick. $500.00 cash, $500.00 in a mortgage for 2 years at 7 per cent and $600.00 in trade. Can use horses, mules or farm implements to advantage. J. E. FARNHAM, Hollywood, Cal.

WE SELL LAND. LOOK AT THIS. 100 acres, close in, well improved, $100 per acre, will be worth $200 in one year. We have other improved farms farther out $25 to $50 per acre. Inquire, PEARS & CHASE, Albany, Oregon.

I MAKE A SPECIALTY OF ORANGE and alfalfa ranches and exchanges. 826 Main St., Room 9, Riverside, Cal. N. R. BELL.

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FOR LEASE, 33 ACRES, ALL IN fruit, all bearing, good income, and fully equipped, two hours' ride from San Francisco. Mrs. M. H. Jenkins, Sonoma, Cal.

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FOR SALE—FIVE-TON PLATFORM Scale. BAILIE & BRANDT COMPANY, 943 & 945 North Main St., Los Angeles, Cal.

FOR SALE—SECONDHAND WINDmill, tanks, pumps, engine at one-half new price. Special, 12 H. P. Webster, fine running order, $250; $150 cash, balance six months or horse of equal value. Also 5-H. P. fine pumping plant including deep well pump, house and 10,000 R. W. tank a snap at $250. See us and get prices. DEMMITT CO., 120 N. Main St., Los Angeles, Cal.

FOR EXCHANGE—ONE 5-H. P. GASOline Engine. Good as new. MACHINERY EXCHANGE, Main & Bruno Sts., Los Angeles, Cal.

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FOR SALE—1500 EUREKA LEMONS, 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. B. WARNER, Santa Ana, Cal.

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WRITE TO US FOR SPECIAL PRICES on first-class prune or peach trees, or berry vines. State number wanted. GRIDLEY COLONY NURSERY. Gridley, Cal.

FOR SALE—100,000 SEED BED ORange trees. For prices and terms address, L. Z. HUNTINGTON, Anaheim, Cal.

ORANGE SEED BED STOCK, EXTRA fine. Also Valencia Orange trees. Prices very reasonable. ROBERT HANSEN, Anaheim, Cal. R. R. No. 4.

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resembles a handsome gas chandelier in its appearance and in its convenience. It is lighted and extinguished like gas. May be turned up full or turned low without odor. Safely filled while burning. Requires filling once or twice a week. Floods every corner of the room with a splendid light. Costs about 3 cents per week. Made in 32 varieties, a style to suit every need and taste. Call or write for catalog.

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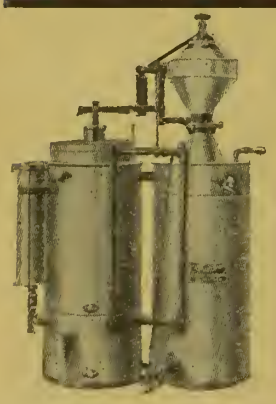

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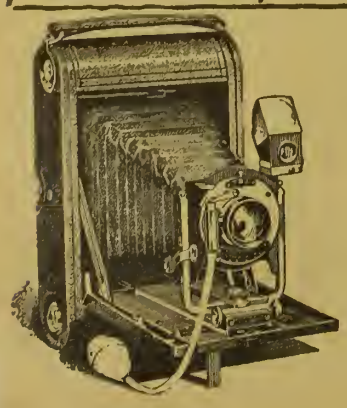

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# Household Department

## THE CITY MAN.

The city man said he was struck
  Upon the rural life,
No longer wished to run amuck
  In noise and dust and strife.

Said he: "I'd like to husk the eggs
  And dig the new-mown hay,
And monkey with the husking pegs
  And milk the cows for whey.

"I'd like to pick the cream and cheese
  And dig the apple crop,
And drive a team of pure white geese
  And feed the chickens slop.

"It would be fun to groom the pigs
  And curry off the cows,
And hitch the roosters into rigs
  And work the threshing plows.
'"Twould be a treat to shell the oats
  And pick the buckwheat flour,
And gather whiskers from the goats
  And sort them by the hour.

"I'd like to cultivate the bees
  And pump the pale blue milk,
And pick the pumpkins from the trees
  And do things of that ilk.

'I'd like to pick the little lambs
  And shear the gentle hens,
And gather in the fresh smoked hams
  And put the wasps in pens.

"In fact, I think the country life
  Would be the thing for me,
I do not care for work and strife,
  I need the rest you see."

—Green's Fruitgrower.

## ROOM NUMBER NINE.

ABOUT 10 years ago a crowd of jolly students had taken lodgings in Rue de l'Ancienne Comedie, an old house in the Latin quarter, with a narrow front, steep roof, very damp, and with dark gloomy stairs.

They were, nevertheless, gay and jolly there. In every story there were only two rooms, but also two singers, and even old Mme. Blanchard, the concierge, in her miserable mousehole of a room at the foot of the stairs, seemed to have been infected by the general gaiety, for she also sang most of the time.

The gaiety was suddenly interrupted, however. My friend, Coligny, who is now a professor at a provincial university, and who occupied room number 9, on the floor below me, grew morose, melancholy and worried about something.

One night I was about to go up to my room at 3 o'clock in the morning, without disturbing anybody, when I noticed a light in my friend's room, number 9. I felt a sudden desire to have a chat with him, and quickly opened the door. What I saw surprised me greatly. Coligny was sitting on his couch, far from his desk, his head resting in his hands, staring into space as if he had been hypnotized.

When I asked him what was the matter with him, he answered curtly that he was all right, shaking his head, as if to shake off some unpleasant vision.

I left him, thinking that he must either be in love or that his stomach must be out or order.

When we met again in the restaurant where we took our meals, I asked him to tell us what was the reason of his strange behavior, but he gave only evasive answers, and when we insisted he grew angry and said that we kept him from working. He soon became the same jolly fellow as before, so we forgot the matter.

Number 9 was empty for about a month, then it was taken by a delicate looking young girl. She was not very intelligent looking when she came, but after a few days she appeared to grow quite idiotic. She spent her days sobbing "Oh, Lord! Oh, Lord!" and during the nights I heard her sighing very loudly.

One night I met her on the stairs. She was in her nightdress, and cried: "Mme. Blanchard! Mme. Blanchard!" I asked her what she wanted, and if I could be of any assistance to her, but she simply stared at me and ran the three flights down to the concierge's room as fast as her legs could carry her. I heard her stammering something unintelligible, and at last the voice of the concierge saying: "All right, you silly thing, I will make a bed for you here in my room." Then the door was closed.

The next morning at 9 the young lodger at number 9 had paid, taken a cab and had fled to parts unknown. She, too! Was this room perhaps haunted?

I rushed to the room of my friend Coligny, and told him the whole story, but he looked more annoyed than interested.

His unwillingness to speak made me still more eager to find out something about the haunted room, so I decided to spend the next night there.

After having lit about a score of candles and placed them everywhere in the room, I went to bed, without undressing, about midnight, placing a revolver within easy reach of my right hand.

I can not say that I was absolutely calm, for the stillness, the expectation and the flickering of the many candles made me rather nervous. The illumination made me think of a wake and of ceremonies when "Dies Irae" is chanted, and in spite of myself I could think of nothing but ghosts, and all the uncanny stories I had ever heard came back to me.

About 2 o'clock there was a noise, at first rather vague, but it grew more distinct—three hard blows on the floor, followed by a fourth and fifth that was longer than the others. "Bang —bang—bang—bang—ba-ang!" It sounded, indeed, as if a lame person was dancing a clog dance, slowly and awkwardly.

I opened one of the closets in the wall and it seemed that the noise grew more distinct and came nearer. I was undoubtedly on the right track, but sudenly the noise ceased. This was a great disappointment to me, but I could reason. Evidently the wall on the left served as a music box, the sound came from it and it was merely an acoustic phenomenon which made it appear to come from the center of the room.

I went into the closet, closed the door and glued my ear to the wall and held back my breath. I heard now vague sounds on the other side of the wall a little above my head. Suddenly I was overjoyed to hear the knocking begin again and more distinct than ever.

What could possibly be going on behind this ventriloquistic wall?

The next day I told the story of my nightly experience in the office where I was employed, and when I had finished one of the men who had once been employed in the mint said to me: 'Why, that noise must sound just like the machine we had stamping coins."

This was an idea. The following night a police inspector with whom I had had a talk arrested in the next house a young man who spent his nights in coining counterfeit two-franc pieces and who had put his stamping machine in a closet adjoining that in our house.—Spokesman Review.

## WASH WATER.

Washing is a chemical operation, every part of which is dependent on water. Water does the washing and its purity is therefore of greatest importance.

One grain of carbonate of lime or other hardening salts in one gallon of water constitutes one degree of hardness. Forty-eight gallons of water of ten degrees hardness contains one ounce of mineral impurities and it will take 11½ ounces of pure soap to take out the hardness. In other words, that much soap is wasted because it takes every bit of it to soften the water instead of doing any washing.

Water containing more than five de-

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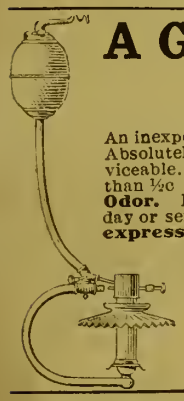

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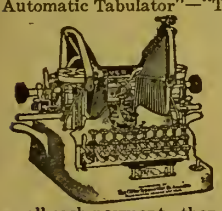

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The result has been such a deluge of applications for machines that we are simply astounded.

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grees of hardness should be softened chemically and the sediment removed before it is fit to wash with. Some water contains over twenty degrees of hardness.

The practice of breaking hard water in the tub or boiler with soap is expensive and slovenly. The coagulated hard water sediment is still left in the water and make the clothes look gray and feel grimy. That part of the soap taken up by the hardness is killed. Then and not until then, what is left of the soap begins to wash.

Any process of breaking or softening water which does not remove the sediment of impurities makes nice washing impossible. The coagulated impurities must go somewhere. If not removed from the water before the washing is put in this sediment settles on the boiler, tub, or in the clothes.

The compound for softening water is three parts powdered borax to one part powdered alum thoroughly mixed. In warm water dissolve four ounces of this compound for every ten gallons of water to be softened. Pour the solution into the water, stir briskly. Coagulation begins at once and in a few hours all impurities will settle in the bottom. Then the pure, soft water can be drawn off and used in the laundry.

For convenience in arranging for a constant supply of soft water for household use have the barrels mounted high enough to get a pail under the faucet. Put a faucet about six inches above inside bottom and another faucet or plug in lowest possible part to remove sediment. Purify the barrel of water and when it has settled draw off the soft water through the upper faucet. This leaves the sediment undisturbed in the bottom. With two barrels one can be used from while the other is settling.

Water of ten degrees hardness can be softened and purified at a cost of about 50 cents a thousand gallons. It is cheaper to use too much powder than too little.

Water test. Dissolve some good soap in alcohol. Drop it in a glass of water and if it turns milky the water is hard. If clear the water is soft.—Successful Farming.

### A SIMPLE FIRELESS COOKER.

Procure a large candy pail with a tight cover. Pack excelsior or hay three inches deep in the bottom, then set the kettle or pail you wish to use, which should be straight sided, and leave a space of at least two inches all around the sides, into the center and pack tightly all around with the same material as the bottom. If you have two pails that will "nest" nicely, leave the one in permanently, and proceed to pack the lid with a similar padding of the excelsior or hay, taking on a cloth to hold it in place, said packing to be on the under side and to fit closely over the lid of the cooking untensil. Now boil whatever feed you want to cook for about five minutes, and quickly place in your nest and cover first with a tight tin or enamel lid, then with the cover you have padded, and leave it severely alone until you are ready for it. Lifting the lid to see how it is getting along, allows the heat to escape, and stops the cooking. Of course, this is a small arrangement and will not accommodate much over a two quart kettle, so if you have a larger flock than this will suffice for, you must use a larger "cooker."—Mrs. Metcalf.

A man tried to speak, and he spoke:
"I'd treasure to seek, and I soke;
The bold robbers crept.
And robbed as I slept—
I'd vengeance to wreak, and I wroke.
"They wanted to steal, and they stole;
One thought he should squeal, so he squole
He told me the facts
Concerning their acts—
What he could reveal he revole.

"I dared them to fight, and they fought;
My dog tried to bite, and it bought;
It ran them away—
This tale of the fray
I wanted to write, so I wrought,
—Chicago Evening Post.

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We have prepared and placed in good positions thousands; let us prepare you. Call, write or phone F6700 or Main 511.

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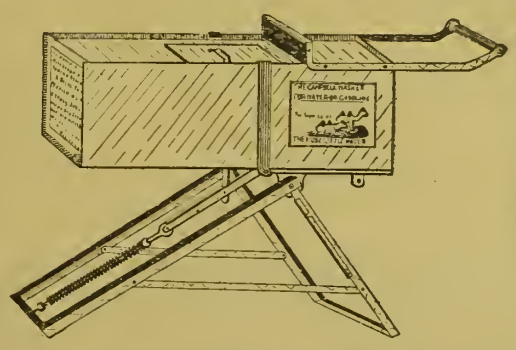

will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

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without high shelf. With high shelf, just as shown in the cut, $19.97; large oven six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

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that takes care of itself—furnishes its own power—requires no attention or repairs—that is what you get in a RIFE HYDRAULIC RAM Raises water 30 feet for every foot of fall from any nearby stream, spring or pond. Any capacity for all Home and Farm uses, Irrigation, Town Plants, Railroad Tanks, etc. Low in cost, high in efficiency. Satisfaction Guaranteed. Plans, Estimates and Book FREE.

RIFE ENGINE CO., 2491 Trinity Bldg., New York

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Nov. 10, 1909.

### Butter.

Butter has dropped a notch during the week and is now confronted with a weak market.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

| | |
|---|---|
| Creamery per roll | 67½@70 |
| Eastern Creamery per roll | 67½ |
| Cooking | 26 |
| Ladles | 26@27 |

### Cheese.

| | |
|---|---|
| Northern fresh | 18½ |
| Domestic Swiss | 23 |
| Imported Swiss | 32 |

### Eggs and Poultry.

Eastern fresh have advanced slightly, but locals still stand at last quotations with firm market.

Paying price f. o. b. L. A. is:

| | |
|---|---|
| Local candled | 46@50 |
| Case count buying price | 42 |
| Eastern fresh | 35 |
| Storage | 30@32 |

Dealers pay for live poultry f. o. b. L. A.

| | |
|---|---|
| Hen per pound | 18@20 |
| Roosters | 9@18 |
| Broilers 1¼ to 2 lbs. | 18@20 |
| Roasters 3 lbs. and up | 18@19 |
| Turkeys | 20@24 |
| Geese | 10@12 |
| Ducks | 10@12 |
| Squabs | 1.25@1.75 |

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

| | |
|---|---|
| Hogs from 175 to 200 pounds | 7¾ |
| Prime steers | 4½ |
| Heifers | 3½@4¼ |
| Calves per pound | 5 |
| Sheep ewes per head | 3.75@4.00 |
| Lambs per head | 3.75@4.00 |
| Wethers | 4.50@5.00 |

### Potatoes.

Wholesale prices are:

| | |
|---|---|
| Yellow Sweets per ctl. | 1.25@1.35 |
| Burbank local | 85@1.00 |
| Highlands | 1.00@1.25 |
| Salinas | 1.65@1.75 |
| Oregons | 1.40@1.50 |

### Onions.

Wholesale quotations:

| | |
|---|---|
| Silverskins local lug | 1.00 |
| Northern Yellow Danvers | 1.35 |
| Australian Browns yer sack | 1.35 |
| Garlic | 7@8 |
| Yellow Globes | 1.25 |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Artichokes locals | 75@90 |
| Asparagus, crate | 2.25@2.75 |
| Beets, sk | 90 |
| Beans, string | 2@4 |
| Brussels sprouts per lb. | 10 |
| Bell peppers | 6 |
| Cabbage, per sack | 1.25@1.35 |
| Celery per crate | 2.75@3.00 |
| Chili per lb. | 2 |
| Cucumbers per box | 40 |
| Cauliflower per doz | 90@1.00 |
| Carrots per sk | 90 |
| Corn per box | 40@60 |
| Egg Plant per lb. | 2@4 |
| Green onions per doz bunches | 20@25 |
| Hubbard squash | 1@1½ |
| Summer squash per box | 35@45 |
| Lettuce choice per crate | 75@1.25 |
| Leeks | 35@40 |
| Oyster plant | 35@40 |
| Okra per lb | 7@8 |
| Peas per lb | 5@6 |
| Parsley, per doz. bunches | 25 |
| Pumpkins per lb. | 1½ |
| Parsnips | 40 |
| Radishes per doz. | 20@25 |
| Rhubarb, No. Strawberry box | 175@2.00 |
| Rhubarb, crimson winter | 1.00 |
| Spinach per doz | 20@25 |
| Turnips sk | 90 |
| Tomatoes lugs | 35@65 |

### Citrus Fruits.

| | |
|---|---|
| Valencias | 3.50 |
| Grapefruit | 2.00@3.50 |
| Lemons | 2.25@3.50 |
| Limes, halves | 1.50@2.00 |

### Fresh Fruits.

Wholesale prices on the market are:

| | |
|---|---|
| Bellefleurs | 1.00@1.35 |
| Fall Pippins | 75@1.25 |
| Winesaps | 2.75 |
| Pearmains Red | 1.20@1.50 |
| Greenings | 75@1.10 |
| Jonathans | 2.75 |
| Smith Cider | 1.50 |
| Casabas per crate | 1.70 |
| Cantaloupes Jumbos | 2.50@3.00 |
| Christmas melons | 2.00 |
| Figs | 85 |
| Grapes lug box | 75@1.25 |
| Guavas, basket | 04 |
| Persimmons lb. | 8@10 |
| Peaches per box | 1.25 |
| Bartletts | $2.50@3.00 |
| Pomegranates | 1.25 |
| Quinces per bx. | 1.25 |
| Raspberries | 10 |
| Blackberries | 8 |
| Strawberries | 8@10 |
| Watermelons per lb. | 1½ |

### Dried Fruits.

Wholesale prices are:

| | |
|---|---|
| Apricots | 12@15 |
| Evap apples fy per lb | 10@11 |
| Figs box | 1.25 |
| Peaches | 7@8 |
| Pears | 11@12 |
| Plums pitted | 12½ |
| Nectarines | 9@10 |
| Prunes | 4½@10 |

### Beans Dried.

Wholesale prices are:

| | |
|---|---|
| Limas per ctl | 4.40@4.50 |
| Pink No. 1 | 4.25@4.35 |
| Black eyes | 4.50 |
| Lady Washington | 4.25@4.50 |
| Small white | 540@5.50 |
| Garvanzas | 4.50. |
| Lentils | 7.00 |

### Nuts.

The following walnut prices are not the wholesale, but car lot quotations established by the walnut association.

| | |
|---|---|
| No. 1 soft shell | 11½ |
| No. 1 hard shell | 11 |
| No. 2 soft shell | 7½ |
| Almonds IXL per lb. | 15@17 |
| Pecans polished | 12½@16 |
| Peanuts Eastern | 7 |
| Peanuts, Cal | 5@5½ |

### Honey.

Wholesale quotations:

| | |
|---|---|
| Extracted water white | 7½@8 |
| Extracted light amber | 5½@6 |
| Comb Water White | 18 |
| Comb, white | 15 |
| Beeswax | 25 |

### Hay.

Buying prices f. o. b. cars L. A. are:

| | |
|---|---|
| New Barley hay | 10.00@14.50 |
| Alfalfa, local | 11.00@12.50 |
| New alfalfa Imperial | 11.00@12.00 |
| Northern | 11.00@12.50 |
| Wheat hay | 11.00@13.50 |
| Tame oat | 11.00@15.50 |

### Grain.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Wheat new per ctl | 1.90@1.95 |
| Kaffir corn | 1.85 |
| Corn | 1.75 |
| Egyptian corn | 1.85 |
| White oats | 1.75 |
| Seed Rye | 2.10 |
| Popcorn | 3.75 |

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Cracked corn | 1.80 |
| Cracked wheat | 2.10 |
| Shorts | 1.85 |
| Bran | 1.60 |
| Cocoanut cake | 1.35 |
| Cocoanut meal | 1.85 |
| Cottonseed meal | 1.25 |
| Oil cake meal | 1.85 |
| Feed meal | 1.85 |
| Cracked wheat | 2.10 |
| Rolled Barley | 1.55 |


# Power Sprayer

For

$85.00

Complete as Illustrated, Without Hose or Nozzles

Most complete low priced power sprayer on the market.
Bronze plunger, gland and valves.
Large air chamber.
Positive agitator.
Relief valve and pressure gauge.
Air cooled gasoline engine.
Uses only one pint of gasoline every three hours.
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FREE How to spray, when to spray, what sprayers to use.

Smith-Booth-Usher Co

Machinery and Supplies

212-214 S. Los Angeles St., Los Angeles

Home, 10661—Sunset, Main 1090


## San Francisco Markets

SAN FRANCISCO, Nov. 9, 1909.

### Butter.

Butter maintains same quotations with but little trading. Market not strong.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

| | |
|---|---|
| California extras per lb | 31½ |
| California flats | 14½@17 |
| California seconds | 29 |
| Storage extras | 30 |
| Ladles | 25½ |

### Cheese.

| | |
|---|---|
| California flats | 14½@16½ |
| Cal. Young America fy | 18 |
| Young American Oregon fy | 18½ |

### Eggs and Poultry.

Eggs show a decline of practically a cent for each day since last report. A heavy bear movement prevails and buyers are shy.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

| | |
|---|---|
| Fresh ranch extras | 49 |
| Firsts | 45 |
| Seconds and thirds | 28@30 |
| Storage extras | 31 |
| Hens per doz | 5.00@9.00 |
| Roosters per doz | 4.00@8.50 |
| Fryers per doz | 5.00@5.50 |
| Broilers | 3.00@4.50 |
| Geese per pair | $1.50@2.50 |
| Ducks | 4.00@9.00 |
| Turkeys | 20@23 |
| Pigeons young | 1.00@2.50 |

### Live Stock.

San Francisco prices gross weight:

| | |
|---|---|
| Steers | 2¾@4½ |
| Cows and heifers | 1½@3½ |
| Hogs | 4½@7½ |
| Calves per lb | 4@5½ |
| Milk lambs | 5½@5¾ |
| Wethers No. 1 | 4½@4¾ |
| Ewes No. 1 | 3¾ |

### Potatoes.

Wholesale market quotations:

| | |
|---|---|
| River White crates | 55@75 |
| Salinas | 1.25@1.35 |
| Oregons | 75@1.00 |
| Sweets crates | 1.00@1.40 |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Bell peppers per box | 40@50 |
| Cucumbers per box | 75@90 |
| Celery, doz | 20@35 |
| Chili peppers per box | 40@60 |
| Corn per sk | 1.00@1.25 |
| Egg plant per box | 40@65 |
| Green peas per lb | 5@6 |
| Okra | 35@40 |
| Rhubarb per box for bay | 1.25@1.50 |
| Squash per box | 85@1.00 |
| String beans | 2@5 |
| Tomatoes | 25@60 |
| Wax beans | 2@3 |
| Lima beans | 4@5 |
| Garlic | 4½@5 |

### Onions.

| | |
|---|---|
| Yellow onions | 70@80 |

### Citrus Fruits.

| | |
|---|---|
| New Navels | 3.25 |
| Valencias | 3.00@3.50 |
| Grapefruit | 1.00@3.25 |
| Lemons | 1.50@4.50 |
| Limes | 5.00@6.00 |

### Fresh Fruits.

| | |
|---|---|
| Bellflowers | 90@1.65 |
| Figs blk box | 50@75 |
| Isabellas | 1.00@1.25 |
| Other varieties | 40@65 |
| Peaches per lug box | 50@1.00 |
| Pears, winter Nelis | 75@1.50 |
| Pears, cooking, box | 40@75 |
| Persimmons | 1.00@1.25 |
| Pomegranates | 50@1.25 |
| Quinces | 75@1.00 |
| Huckleberries per lb. | 6@10 |
| Raspberries per chest | 8.00@10.00 |
| Strawberries, chest | 4.00@6.00 |

### Dried Fruits.

| | |
|---|---|
| Santa Clara prunes | 2¾@3 |

1 cent premium for larger sizes.

| | |
|---|---|
| Apricots per lb. Royal | 10½@12½ |
| Peaches—Choice | 5½; Fancy 7½ |
| Apples evap | 8@9 |
| Pears | 6@9¼ |
| Figs | 3¼@5 |
| Nectarines | 5@6 |
| Plums | 7@8 |

### Raisins.

1909 crop, f. o. b. Fresno, 1-lb. cartons—Choice, 4½c; Fancy, 5¼; Seedling Stock, 2½c, sweat-box; London Layers, 2-crown, 90c; do, 3-crown, $1; Fancy Clusters, $1.25; do. Dehesa, $1.50; do. Imperials, $1.75; Loose Muscatel, 2-crown, 3c; 3-crown, 3½c; 4-crown, 4c.

### Nuts.

| | |
|---|---|
| Walnuts soft shell No. 1 | 12½ |
| Walnuts S. S. No. 2 | 7½ |
| Walnuts, hard shell | 11½ |
| Almonds '09 N. P. U | 13 |
| Almonds '09 nonp | 14½ |
| Almonds I X L | 14 |
| Pecans | 15@17 |
| Chestnuts | 14@15 |
| Peanuts | 5@6 |

### Beans Dried.

| | |
|---|---|
| Limas | 4.20@4.30 |
| Pink | 3.60@3.65 |
| Small white | 4.75@4.85 |
| Large white | 3.50@3.60 |
| Black eyes | 4.15@4.25 |
| Red Kidneys | 5.50@6.00 |
| Garvanzas | 3.00@3.25 |
| Bayo | 4.90@5.00 |
| Horse beans | 1.90@2.20 |
| Cranberry | 4.75 |

### Hops.

| | |
|---|---|
| Hops 1909 crop | 23@26 |
| Hops 1908 crop | 16@19 |
| Old | 8@12 |

### Honey.

| | |
|---|---|
| White comb | 14@15 |
| Light Amber | 10@12 |
| Extracted W W | 7½ |
| Extracted light amber | 6½@7 |
| Beeswax per lb | 25@29 |

### Hay.

Scott, Magner & Miller say:

Arrivals of hay for the week just past have been 2625 tons; more than one-half of this amount has arrived by water. Railroad arrivals have been very light, and we believe will continue so for a week or two at least.

Market prices have remained about the same as they were for the ten days preceding this week, with the exception that choice wheat hay has been in a little better supply, and the prices on this grade have weakened a little on this account. The demand for all grades of hay for the past ten days has been decidedly light.

All the main shipping points have been complaining of lack of cars. The receipts for this market for the past ten days would have been much heavier had cars been furnished the shippers.

We present below a comparative statement of the amount of hay on hand available for the San Francisco market, as compiled by the San Francisco Hay Association from recognized authorities throughout the state, to show how the amount of hay on hand this year compares with that on hand at the same time in former years.

On Nov. 1st, 1909, 258,500 tons; Nov. 1st, 1908, 116,850 tons; Nov. 1st, 1907, 229,600 tons; Nov. 1st, 1906, 168,600 tons; Nov. 1st, 1905, 157,100 tons; Nov. 1st, 1904, 142,790 tons.

This week's quotations are:

| | |
|---|---|
| Choice wheat hay | 1900@20.00 |
| No. 1 wheat or wheat & oat | 17.00@18.00 |
| No. 2 wheat or wheat & oat | 14.00@15.00 |
| Choice tame oat | 16.50@17.50 |
| Other tame oats | 14.00@15.00 |
| New crop wild | 11.00@15.00 |
| Stock hay | 8.00@9.00 |
| Alfalfa | 10.00@13.00 |
| Straw | 55@65 |

### Grain.

| | |
|---|---|
| Wheat No. 1 | 1.77½@1.82½ |
| Barley No. 1 | 1.40@1.45 |
| Oats white | 1.57½@1.65 |
| Oats gray | 1.60@1.65 |
| Rye new crop | 1.85@2.20 |
| Cal sm round corn | 1.70@1.75 |
| Alfalfa seed | 16@18 |
| Mustard brown | 3¾@4½ |
| Millet | 2½@2 |
| Flaxseed | 4 |
| Broom corn seed per ton | 23.50 |

### Feed Stuff.

| | |
|---|---|
| Bran per ton | 29.00@30.00 |
| Feed cornmeal per ton | 37.00@38.00 |
| Cracked corn per ton | 38.00@39.00 |
| Ground barley per ton | 30.50@31.50 |
| Rolled oats per ton | 36.00@37.00 |
| Oil cake per ton | 38.50@40.00 |
| Cocoanut cake per ton | 25.00 |
| Middlings | 36.00@37.50 |
| Mixed feed per ton | 28.00@33.00 |
| Shorts | 31.50@33.00 |

## Deciduous Market

SACRAMENTO, Nov. 8, 1909.

The California Fruit Distributors received reports Nov. 8 of fruit sales in the East as follows: Nine carloads sold in Boston, 7 by Distributors; 19 in Chicago, 10 by Distributors; 5 in Pittsburg, 4 by Distributors; 8 in Philadelphia, 7 by Distributors; 1 in Buffalo by Distributors; 1 in St. Paul by Distributors; 2 in Minneapolis by Distributors.

Fruit prices averaged as follows:

Chicago—Tokays, 55c@$1.35; Malagas, 85c@$1.35; Cornichons, 80c; Emperors, 85c@$1.40.

Boston—Tokays, 95c; Cornichons, $1.05.

## Citrus Market

LOS ANGELES, Nov. 10, 1909.

Navels are going forward from Tulare and Butte counties, but are only beginning to arrive in the market and word is not yet received as to how the trade is regarding them. The few Valencias which have been going recently have commanded fair price. So far as can be judged, the Navels will be well received. Southern California navels will not begin to go till the 25th or the end of the month.

Shipments of lemons have nearly doubled in the last few days and there are now ten or eleven cars going daily. This has slightly affected the middle western market and demand is not so keen as formerly. The imports are still arriving, but in small quantity, so that the auctions are taking such as are sent to them at satisfactory prices.

SHIPMENTS.

Total shipments to date since November 1st, 154 cars, of which 97 were oranges and 57 lemons. To same date last year, 96 cars, of which 19 were oranges and 77 lemons.

NEW YORK, Nov. 9.—Eight cars of oranges and one car of lemons sold. The market easier and lower on oranges. Weather clear and favorable.

| VALENCIAS— | Avge. |
|---|---|
| Sceptre, S. S. Exchange | $3.55 |
| Planet, S. S. Exchange | 3.25 |
| Blue Label, A. C. G. | 3.40 |
| Red Label | 2.85 |
| Green Label, A. C. G. Exchange | 2.45 |
| Sceptre, S. S. Exchange | 3.50 |
| Planet, S. S. Exchange | 3.10 |
| Purity, Tustin P. Co. | 3.35 |
| Old Oak, Tustin P. Co. | 2.85 |
| Lucky, Tustin P. Co. | 2.50 |
| San Rafael, H. W. Bailey | 3.10 |
| Old Mission, Chapman | 4.60 |
| Stock Label, Cleghorn Bros | 1.35 |
| I X L, Benchley Fruit Co. | 5.10 |

Warranted to give satisfaction.

GOMBAULT'S
CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Scalefoe

Greatest Known Spray or Wash for Scale: San Jose, Black, Red, Purple and Brown. Also a sure thing for Red Spider, Canker Worm, Moss, Gum Disease, Silver Mites, Mealy Bug, Caterpillars, Lice, Codling Moth, and all Insects and Bugs that infest plant life; without injury to the plants, and with positive benefit to the soil, when applied.

This has long been the leading Spray or Wash in many sections of the country, wherever introduced. We have bought the formula and the rights for this section and are putting it out under our own brand. No article can bear the "West Coast" name unless it is the best of its kind. We guarantee Scalefoe to be just as represented. Send for circular with many testimonials.

Gallon can, 85 cents; 5 gallon can, $3.75. If not sold by your dealer will send gallon can for $1 or 5 gallon can for $4, freight prepaid by us within 200 miles. Write for price in barrels. Mix 20 parts water to 1 part Scalefoe, before using; makes it the cheapest as well as the best. Satisfaction or money back.

Made by the

West Coast Mill

Los Angeles, Cal.

Makers of the celebrated

GERMFOE and FLYFOE

FOR SALE

20 CARLOADS OF MERCHANT NEW PIPE

Galvanized and Black—All Sizes

Just arrived from the mills. We are offering this pipe at the lowest prices obtainable on the Pacific Coast. Write or telephone for quotations. Call and inspect the stock. We can cut pipe to any measurement you want. Our carload brass valves just arrived from one of the largest brass works in the East. All first-class new goods. Hose bibb, garden valves, angle valves and globe valves. Two carloads oil well casing, 11⅝, 9⅝, 7⅝, 5⅝ 4, 3½, 3¼ and 3-in casing.

Adams Pipe Works

2025 Bay St., Los Angeles

Phones—F1917, Bdw. 1264

VENADERA HERD
Registered A. J. C. C. Jerseys

St. Lambert and Flying Fox Blood. Margery Golden's Fox heads the Herd. Young stock for sale. GUY H. MILLER, Prop., R. 3, Modesto, Cal.


Superior, Benchley Fruit Co. .....2.90
California Orange, Riverside Ex..2.55
LEMONS—
Independent, Growers' Fruit Co. ..6.75
do choice ..... ..... .....5.00
Orchard Run ..... ..... .....5.05

BOSTON, Nov. 9.—Four cars sold. Market continues strong. Weather favorable.

LEMONS—
Harmony, S. A. Exchange .....6.45
Greyhound, S. A. Exchange .....5.55
Pet, S. A. Exchange ..... .....5.90

NEW YORK, Nov. 5.—Six cars oranges sold. Market very steady. Weather clear and favorable.

VALENCIAS— Avge.
Swastika, L. V. W. Brown.....3.00
Stock Label, L. V. W. Brown .....2.45
Sceptre, S. S. Exchange .....3.80
Planet, S. S. Exchange .....3.75
Lucky, Tustin P. Co. ..... .....3.10
Cerritos, L. V. W. Brown .....4.05

ST. LOUIS, Nov. 5.—Weather favorable. Market steady. Three cars sold.

VALENCIAS— Avge.
Searchlight, S. S., Orange .....3.15
Segunda, A. H. Pachappa .....3.05
Sunset, S. S., Orange .....2.90
Hobo, A. H. Pachappa .....2.55
LEMONS—
Whittier, S. T. Whittier ..... ...3.25
Pico ..... ..... .....3.05

CLEVELAND, Nov. 5.—One car lemons sold. Market lower on lemons.

LEMONS—
Flower ..... ..... .....3.40

PHILADELPHIA, Nov. 5.—One car lemons sold; also 250 boxes of Florida oranges and grapefruit. Oranges sold from $1.65 to $2.35. Grapefruit, $2.40 to $3.35.
Bridal Veil, Limonelra Co. .....4.45

BOSTON, Nov. 5.—Two cars sold. Weather favorable. Market steady.

VALENCIAS— Avge.
Volunteer, S. A. Exchange .....3.55
Orchard, National Orange Co. ....4.50
Pet, S. A. Exchange ..... .....3.00
Standard, National Orange Co. ...3.50

PITTSBURG, Nov. 5.—One car sold. Market steady on Valencias. Cool.

VALENCIAS— Avge.
Searchlight, S. S., Orange .....3.40

NEW YORK, Nov. 8.—Fourteen cars Valencias, one car Louisiana oranges sold. Market about firm, prices slightly easier tendency. Cool, cloudy.

VALENCIAS— Avge.
Orchard, National O. Co. .....3.90
Standard, National O C. .....2.80
Mayflower, R. J. Richardson .....5.40
Pilgrim, R. J. Richardson .....4.10
Buena, R. J. Richardson .....3.55

## QUERIES.

(Continued from Page 475.)

izer in the stables. Whenever there is any odor of ammonia about a stable or manure pile, then the nitrogen is escaping. Gypsum loosens the soil and adds to its capacity to hold water very greatly. We use from 200 to 600 pounds to the acre. When more is used it does not seem to do any special good. If it goes out to the field with the manure it is not as disagreeable a job as it is to spread it out from the wagons. Where the manure is used the gypsum helps the land by holding the manure more moist. We use gypsum by the carload on the ranch. It goes through the stables and it also goes directly on the land by broadcast. It is cheap, $6.00 to $8.00 a ton at car when bought in carload lots. Spread the gypsum before the plowing and turn it under in the winter for orchard work. I should also sow a crop of peas on land of this kind and turn them under next spring after spreaing a little gypsum, 200 pounds then with 200 at this time will be plenty.—M. E. S.


Send for Sample of
PAGE WOVEN WIRE FENCE

We offer to send, free of charge, an actual sample of Page Woven Wire Fence, just as it comes from the big looms. Each one is "a sermon in steel." The tremendous success of Page Fence which is now on its Quarter Centennial Year, is due to the fact that its makers have always given full measure of honest value. It is the old reliable time-tried wire fence that outlasts them all. Admitted to be the strongest wire fence in existence.

Send today! See the real Page Wire! Get next to the "Page Knot!" Get the great Quarter Centennial Edition of the Page Fence Catalog and learn the difference between Page Fence and the ordinary kinds. Find what Page Fence means in economy. Write at once and both the free sample of Page Fence and the big Catalog will be sent promptly. Address

Page Woven Wire Fence Co.
Box 272K Adrian, Mich.

Double The Quantity of Water

delivered by any other deep well cylinder pump, is raised by the

"American" Deep Well Pump

The reason is it delivers the full capacity of the cylinder both on the DOWN-stroke and the UP-stroke making it actually double capacity. There's a revelation to pump users in our new Deep Well Pump Catalog.

The American Well Works
Gen. Office & Works, Aurora, Ill.
1st Nat. Bank Bldg., Chicago.
American Pump Co., 160 N. Los Ang. St. Los Angeles Cal.


# Veterinary

### Inflammation of Bladder.

My mare urinates frequently, especially when starting with heavy loads, also at certain times almost constantly.

In our neighborhood many horses have died suddenly with no other symptoms than slight swelling on chest or neck. They are often dead within twenty-four hours after the swelling is noticed.—E. C., Alpaugh.

The mare probably has cystitis or inflammation of the bladder. There may be some growths in the bladder or in its neck or she may have stones in the bladder. It will take a very close examination to determine for certain. Would suggest putting the urine into an alkaline condition by giving bi-carbonate of soda in tablespoon doses twice daily, also a half ounce of turpentine in four ounces of sweet oil twice daily.

As for the acute fatal malady you mention, symptoms given are a little too meager for an accurate diagnosis. If you have a county stock inspector in your county, notify him or write to the state veterinarian at Sacramento.—R. T. W.

### Hole in Teat.

I have a cow that has bad her teats cut on wire, leaving holes in side. It has healed, but the whole quarter of the udder seems swollen, and when milked or pressed out, a rather thick yellowish matter runs out of the hole in the side, but the teat doesn't seem sore. The cow will be fresh in a few days. What is the best treatment? Can anything be done to close hole up? I am rubbing teat and udder with olive oil and pressing it out twice a day.—D. M. A., Pixley.

The hole could have been operated on and healed while she was dry, but at present, as she is coming fresh, I think there is nothing to be done but to continue working on as you are doing. An injection of hydrogen peroxide will help to keep it clean, but be very careful about strict cleanliness.—R. T. W.

Owing to destruction by fire of Dr. Whittlesey's place, queries hare been delayed in the answering. If any have been lost and are not answered, the subscribers will please repeat.

### DR. WHITTLESEY'S VETERINARY REMEDIES.

These are not ordinary mixtures but are from well tried formulas, used in an extensive practice in Southern California for nearly a quarter of a century. Dr. Whittlesey's Sulphur Arsenical Salve for deep fistulous or ordinary chronic, Indolent sores such as, "Poll Evil," "Fistulas," "Quitters," "Thrush," "Scratches," "Warts," "Collar sores" or "Slt-fasts," $1.00 per package postpaid. Printed directions. Dr. Whittlesey's Antiseptic Healing Powder forms a coating over raw surfaces, excludes air, flies and floating germs. Makes a cheap and convenient dressing for the many sores that occur to stock on the ranch. $1 full pound can postpaid.

DR. R. T. WHITTLESEY,
Veterinary Hospital, 714 East Seventh St., Los Angeles, Cal.

# Business Notes

### CRIMSON WINTER RHUBARB.

Crimson Winter Rhubarb, introduced in 1900, received slow recognition, though it proved all and more than was claimed for it No vegetable ever introduced has proved so profitable.

Rhubarb is the first vegetable we have from the ground in spring. It has a host of friends who fully appreciate its merits, while those who have land and do not grow it are losing one of Nature's choicest and healthiest vegetables. It is the easiest plant to grow of all the perennials. A bed once established will last for 15 years. A half dozen plants will supply a large family during the season, which with Crimson winter is 52 weeks each year. (Common sorts 12 weeks). Burbank says, for growing in California for shipping East, it has been proven to be more profitable than anything the soil produces.

See ad of J. B. Wagner in this issue and write for particulars of this wonderful money-maker.

Fairview Farm Nurseries, G. H. Hopkins and Son, proprietors, Burbank, has just issued a neat catalogue with cover of blue and gold, giving a list of small fruit plants, especially strawberries of which these nurseries make a specialty.

The International Auto Buggy

will carry you the farthest and the longest for the least money.

The International Auto Buggy

is not the lowest priced auto but it is the cheapest in the end.

The International Auto Buggy

has no tire troubles. Its solid rubber tires will not puncture or blow out.

The International Auto Buggy

does not cause continual trouble and repair expense. It gives maximum service at minimum cost.

The International Auto Buggy

holds a record of 5000 miles without any trouble or repair expense whatever.

Send a postal for a complete catalogue

California Moline Plow Company

Stockton and Los Angeles

H.H.H LINIMENT

A SAFE-GUARD IN YOUR HOUSEHOLD

FOR SORE-THROAT, RHEUMATISM NEURALGIA, SPRAINS, BRUISES, SWELLINGS, POISONOUS BITES LAMENESS IN BACK-SHOULDERS AND LIMBS, CUTS, OLD SORES STIFF JOINTS, CORNS, BUNIONS CHILBLAINS, ETC.

THE STOCKMAN'S STANDBY.

SAFE-PROMPT-SUCCESSFUL TREATMENT FOR THE MANY AFFLICTIONS OF THE HORSE & OTHER DOMESTIC ANIMALS.

CAN BE USED TO BLISTER, OR NOT-AS NEEDED. FULL DIRECTIONS.

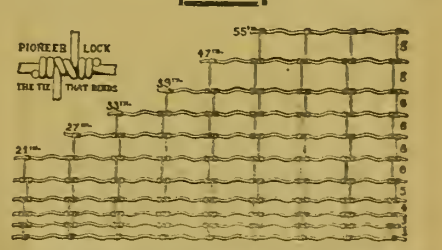
PROVEN THE BEST BY 40 YEARS OF TEST.

50c & $1 Sizes Sold Everywhere.

IT DOES THE WORK

H.H.MOORE & SONS, MFG'RS. AND PROPRIETORS STOCKTON — CALIF

Kokomo Hog Field Poultry Fence




The Standard of all makes. Square and Diamond Mesh Fences for all purposes. Made of heavy, non-rust, self-regulating steel wires. Absolutely hog tight and stock proof. Write us for catalog and prices.

CALIFORNIA ANCHOR FENCE CO.
Main & Market Sts., Stockton, Cal.

# "Without a Peer"

says one of our customers, writing regarding his WESTERN engine. Extract from his letter is given below:

"It pleases me greatly to be able to say that the engine recently purchased of you has more than met our highest expectations. Of its kind, it is my belief that it is **Without a Peer** in all the West.

In the purchase of the engine I carefully looked over the market, had seen every high powered combustion in the State, had given every argument due weight, had fully considered costs of other powers—both as to first cost and cost of operation—and now after a good test stand ready to say that I do not think we have made a mistake in securing your engine."

The engine referred to is of the size and type shown in cut, and is used for pumping water near San Francisco, Cal.

250 H. P. Western Engine

## Western Gas Engine Company

Builders of Gas and Distillate Engines and Hoists. Engineers and Constructors of Power Plants of Every Size, for Every Purpose.
Sole Manufacturers of the Nix-Frost Crude Oil Suction Gas Producer (Patented)
The Cheapest Power on Earth.

**WORKS & MAIN OFFICE:**
**Los Angeles, Cal.**

**NORTHERN BRANCH:**
**San Francisco, Cal.**

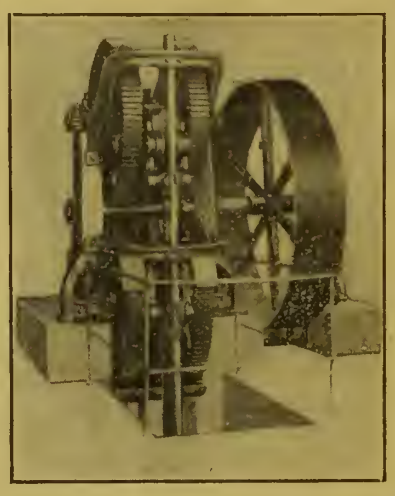
# The Smooth Running, Noiseless Pomona Deep Well Pump

It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

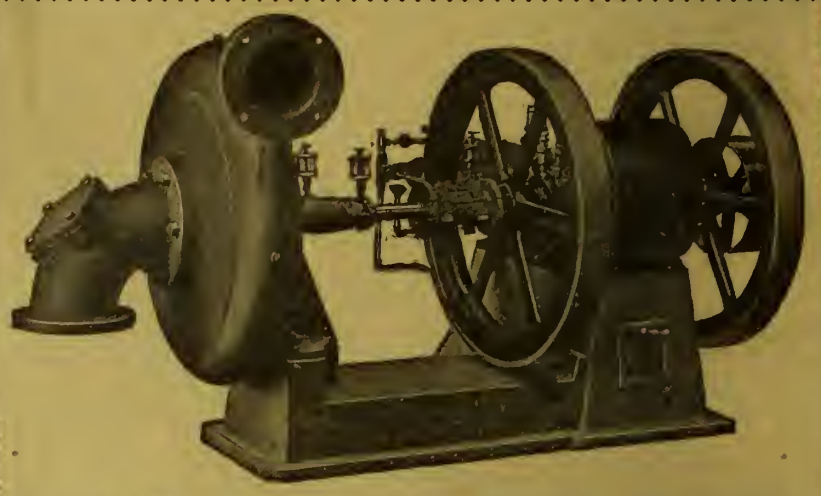
Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.



## POMONA MANUFACTURING CO.

**POMONA, CALIFORNIA**



## BYRON JACKSON IRON WORKS

CENTRIFUGAL PUMP DIRECT, CONNECTED TO GASOLINE ENGINE. WRITE FOR BULLETIN 32.

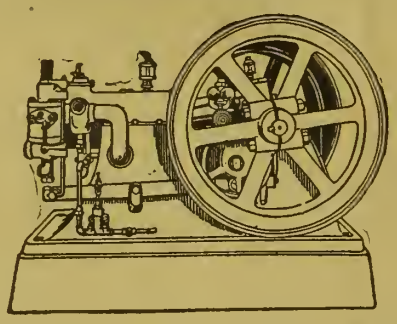
**SAN FRANCISCO** 351-355 Market Street
**LOS ANGELES** 212 N. Los Angeles St.
**SPOKANE, WASH.** **SEATTLE, WASH.**

# Alamo and Union Distillate Engines

**New Stock just Received**

**Strong**

**Economical**



**Easily Operated**

**Prices Right**

Electric, Steam and Gasoline Irrigating Plants Installed.
We buy sell, exchange and rent machinery.

## Bailie & Brandt Company

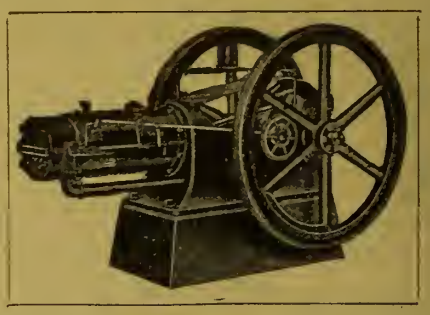
ENGINEERS

**Office and Works, 943 N. Main St., Los Angeles**

Write for particulars.

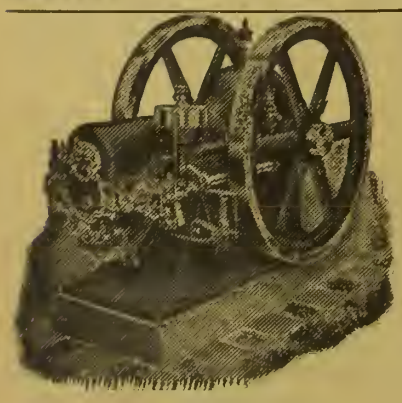
## *Not too Heavy*
## *Not too Light*
## *But Just Right*

Send for Bulletin No. 12.



## *COMMERCIAL ENGINE CO.*

***951-955 No. Main St., Los Angeles, Cal.***

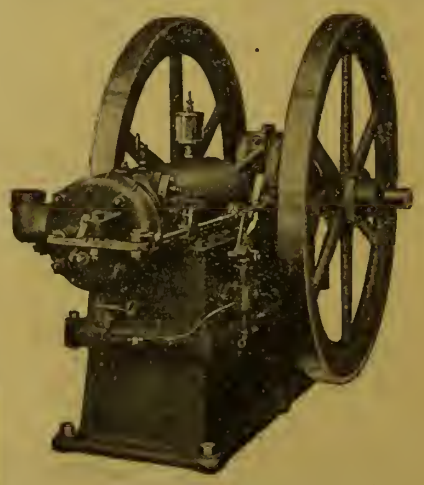


## *Another New Gas Engine*

Is amongst us and if you are in need of power you should investigate this one. You will find that it possesses the most desirable features of all the old timers and the price is right. Plenty of catalogues for distribution.

***Henshaw-Bulkley & Co.***
**262-264 So. Los Angeles St., Los Angeles**

# *Stover Distillate Engines*



5 to 50 H. P. Horizontal. 2 to 9 H. P. Vertical.

So simple and yet so perfect.

Portable and Stationary.

Complete Pumping Plants Installed.

## *LIVINGSTON & LEE*

***354 So. Los Angeles St. Los Angeles, Cal.***

# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles November 18, 1909 San Francisco


## The Automobile Proves Its Value to Farmers

FAR SIGHTED FARMERS appreciate the fact that the world moves faster today than it did yesterday. They realize that improved machinery and up-to-date methods must be used if they would keep abreast.

While time and labor-saving machinery have marvelously widened the range of this productive capacity, the means by which the farmer himself was to keep pace with this progress has been a longer time in coming. The average farmer spends too much time getting from place to place. He works his horses almost as hard whether he is taking a load of produce to the city or just going in on business. The care and attention required by horses incident to a pleasure drive, a trip to church or to town, is just as great as the task of preparing them for work in the field. But the most discouraging fact of all is this—the farmer himself and his family rarely can give any time to recreation.

To give the farm team rest and permit more opportunity for relaxation and pleasure nothing equals the automobile. If the practical automobile accomplished no more than to save a farmer's time, to provide pleasure and health for his family and to leave his horses fresh for that work for which they are better fitted, it would certainly be a good investment. The fact seems to have been amply proved that the dependable utility car actually costs less to keep for service and is much less troublesome to care for than the horse.

Like the telephone, the trolley car and the rural free delivery, the automobile has naturally come to weld a firmer link between the business men of the country and of the city.

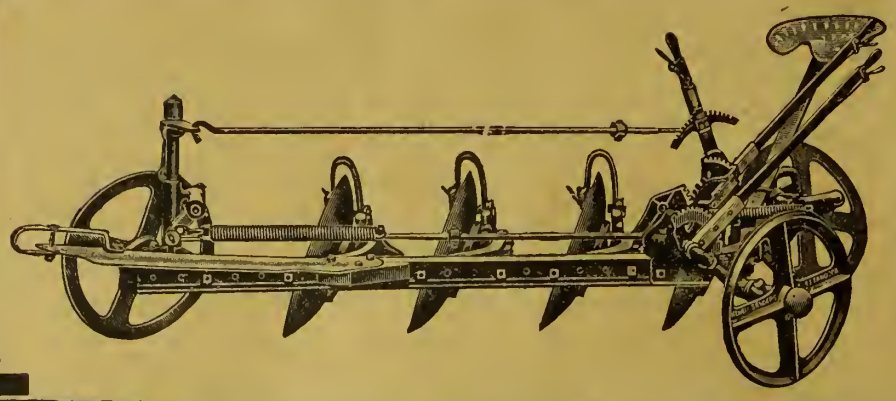
When it is considered that the utility automobile possesses such power equipment that it can travel the worst roads in any season of the year, can negotiate any hills which could be climbed with a horse and wagon, and requires but the simplest attention, it seems to be pretty well adapted to the uses of the farm.

The expense of up-keep in some cars has been reduced until today a man can operate a car, spending less for oil and gasoline than the cost of feeding a horse. It is worthy of note that the car is a matter of expense only when in actual operation, and that while in operation its road capacity is at least four times that of a horse driven vehicle.

In point of operating knowledge, even were this not simple enough, the farmer has a great advantage. He is more of a mechanic of necessity than the city man But his chief advantage lies in the fact that he knows something about machinery and is, therefore, able to save the expense of practically all repairs that might become necessary through accident.

# EVERYTHING FOR THE RANCHER.

## The Sanders-Arnott Disc Plows



All Sanders gang plows have one solid steel frame to which the beams are bolted. This is the most important feature ever introduced in the construction of disc plows. Six page illustrated circular giving other reasons mailed to those interested. These plows furnished in all sizes, one to six disc and in field and orchard patterns. Sold by principal dealers or direct by us if your dealer handles an inferior plow. Write us today.

QUALITY ARNOTT GUARANTEED — ARNOTT & CO. INC. 112-118 S°. LOS ANGELES ST., LOS ANGELES, CALIF. — QUALITY ARNOTT GUARANTEED

## Perfect Tackle Blocks 70c Up

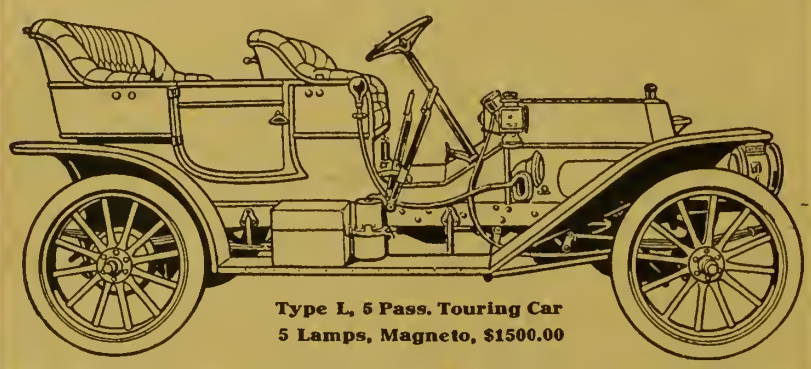
The Burr self-locking tackle block will positively not slip on wet, greasy or dry rope. Yet it has no teeth or claws to injure the rope as all others do. It has no springs of any kind to get out of order. It is as adjustable as a differential chain block. It will lock positively at any angle—even up side down. One man can do the work of four with this marvelous little farm help. Lasts a lifetime and pays for itself on one job. Prices only 70c to $4.25, according to capacity of 600 lbs. up to 5,000 lbs. Write today for catalog and full information about the one practical rope tackle block on the market.

**Burr Automatic Safety Tackle Block**
**BURR MFG. CO.**
156 Viaduct Cleveland

## The Whiting Jersey Stock Farm Co.

Is making the very best strains of blood fresh from the island of Jersey a specialty. **Whiting Jersey Stock Farm Co., Heber, Cal.**

# 1910 Durocar



Type L, 5 Pass. Touring Car
5 Lamps, Magneto, $1500.00

**$200:00 More Value for $100.00 Less Is What**

you get in the 1910 Durocar. Equipped with Large Wheels, Magneto, Powerful and Simple Durocar Engines Guaranteed for One Year. You can buy direct from the California factory. Write for Free Catalogue.

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# Who Wants Baby Chicks?

We can supply 2500 chicks per week of the following kinds: Barred Rocks, Rhode Island Reds, White Rocks, Black Minorcas.

The price is $14 per 100, crated ready to ship.

White and Brown Leghorns are $12 per 100 ready to ship. 150-Chick Size Fireless Brooder only $4 if you order some chicks to come in it.

They are very light and chicks will ship safely anywhere in them. 50-Chick Size $2.50. Send for our chick and hatching egg catalog. It's Free.

## *Pioneer Hatchery Company*

***112 East Eighth Street, Los Angeles, California***

## An Improved Freestone Peach

The best for canning, drying and market.

## Fay Elberta Peach

Superior to Muir or Lovell for canning or drying, and superior to any for market. A heavy and regular bearer, very attractive, firm and of exceptionally fine flavor. Write for descriptive circular.

**The Silva-Bergtholdt Company** 164 Orchard Street Newcastle, Cal.

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Manufactures

## "ECONOMY" HYDRATED LIME

A High Calcium Lime. 98% Pure

The best for sprays. Prices right. Write us.

## THE A-F GRAVITY CONVEYORS

Are now required for all Fruit Packing Houses which seek to economize and systematize the handling of fruit. Trucks should be abandoned and A-F Gravity Conveyors installed for carrying boxes from packers to presses, thence to storage and cars.

**SEE THE A-F CONVEYORS IN OPERATION AT**

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**COAST AGENT**

**Jas. M. Pitkin, Grand Hotel, San Francisco.**

## THE ALVEY-FERGUSON CO.

INCORPORATED

**LOUISVILLE, KENTUCKY.**

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For the Season of 1909-10

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is not to be sneezed at.

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MADE OF YUCCA PALM

Is cheap, durable, and quickly put on the tree. It prevents rabbits from destroying your trees. A sure protection against frost, sunburn, grasshoppers or dry winds. Can be easily removed; will last for years. Send for samples.

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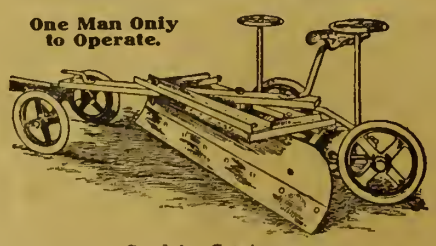
One Man Only to Operate.



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GROWERS AND IMPORTERS OF

**Grass, Vegetable and Flower Seeds**
**All Kinds of Bulbs and Onion Sets**

**609 J St., Sacramento, Cal.**

Send for Catalogue. Please mention Cultivator

# California Cultivator

Vol. XXXIII—No. 21 Los Angeles, California, Thursday, November 18, 1909 Subscription $1 a Year

# Teach Co-Operation in Our Public Schools

## An Address by J. W. Jeffrey at the Farmers' Week Session at the State Farm, Davis

I SAY entirely in sorrow and not in complaint that too little attention is paid to the principles and influences that affect the sale of farm produce, and that in this respect the agricultural education of the country is shamefully deficient. California, the most advanced in horticultural productions of any state or country, with no material advancement in the study of that branch of farm economics that should promote the successful sale of her products!

The work of our conventions in which I have had some part, the deliberations of our farmers' institutes, the teaching of our agricultural schools and the discussions among the farmers themselves, are minus the most essential feature—the consideration of the elements that influence, make or break the markets. The work of these institutions reminds me of an unassembled watch lying upon a workman's table—the parts beautiful, perfect, essential, every one of them, but without the mainspring. We discuss soil improvement, stock hygienics, plant breeding, insect control, farm management, orchard practice and the attractions of rural life—these lovely, faultless and material parts of our program—as if the mere production of fine cattle, abundant grains, and luscious fruits was the sole end of farming. If this were the only object of our soil activities, the assembled industries of California would run without friction, for there would be no imperfect or missing elements with men each expert in his own field and turning out such handiwork as we see in our various agricultural enterprises; for education, science and the American genius for doing things can be depended upon to regulate and run the farm except in its most essential function—the selling of its products.

You will agree with me that when science and practice have perfectly fulfilled their part in the scheme of farming, they have yet created no wealth and will not have created it until the products of the lands have been disposed of to the profit of the producer and the advantage of the consumer. Then why continue to promote better husbandry, more abundant and superior crops at our farmers' meetings, and neglect an equally essential feature of the farmers' business—if not its only real issue?

What then is to be done with a problem so paramount in importance and yet so neglected as the proper study of selling farm produce? Whence is the material to come from which to build a foundation for better understanding of these neglected features of farm life? I do not know very well, and it may seem presumptuous for me to try to evolve a better standard for our public discussions. But I may at least become for the time being a signboard and try to point the way. Anybody can do that and yet be altogether dumb, and yet the hand may point the right course, however unable to move towards the destination.

The course is education. But what form of education? Surely we cannot continue to build the foundation of a great, paramount and self-sustaining industry upon an education that merely brings us congested supplies of farm products; we cannot build upon that education which concerns itself simply with turning out superior crops and greater tonnage. The end is already in sight for several fine commodities of California which have depended too confidently upon being bidden to a profitable market while the producers waited for this happy event. Most certainly that form of agricultural enlightenment that produces high-grade products must be increased and accelerated, for its fundamentals are as economic to the whole plan as are the basic principles of the barter and trade which it so effectually supplements. We plead for an agricultural education that will have for its corner stone the idea that the farmer must be a factor in the commercial world, and not merely a machine to grind out commodities upon which some one else can make profits. In the past the farmer's functions have ceased at the door of the warehouse or packing house, or at the gate of the stock pen. He is a conservative in the matter of selling his own products at least and has too long been the victim of his own inherited or preconceived opinions.

The farmer's education along the lines of fundamental things relating to his business, becomes more imperative every year. He is now trying to meet individual problems that did not menace his father's prosperity. Circumstances of new and involved transportation problems; of immense aggregations of money reversing the natural laws of supply and demand in which money often demands what it wants and supplies what it wishes to give out and on its own terms; of combinations that prey upon the farmer's business, not because he is a farmer, but because he is helpless—these modern circumstances and many others have reduced him to a position of minor influence in the affairs of the nation both political and industrial, though he is in fact their greatest regulator whenever his united strength can be brought to bear upon the affairs of the day. When he adopts the Missouri idea which will finally bring him to act in masses, then will he be a power for good unto himself and hence to everybody else. But to achieve this happy and absolutely necessary state, if the nation is to endure, the soil tiller must educate himself in all the fundamental principles that affect his financial welfare, which of course include the mastery of farm science, farm administration, and above all of the principles that affect the fruition of his labors—the marketing of his produce.

There should be a department of farm economics at Berkeley or Davis today, teaching the young farmers, yes, and the older also, about the principles of their business as they are now taught about their occupation. This should be done the same as the principles of law or of engineering are taught at the schools devoted to these professions. O, the list of subjects that ought to be taught about farming and are not—it is simply appalling. Just a few examples will show the opportunities that might be found. There should be taught:

1. The broad principles that govern supply and demand concerning farm products, which include proper distribution and the regular serving of customers so that they will neither be injured by high prices or denied the produce when prices are low.

2. The essential difference between the marketing of perishable products and the more stable commodities.

3. That the regular movement of crops at fair prices is the only safety for the farmer's business in the long run and the reasons therefor.

4. That an industry in which each farmer tries to speculate in his own crop, that is, holds for fictitious or exorbitant prices even when temporarily successful, marks the final destruction of the industry, and why this is true.

5. That the production of crops and their sale are two distinct lines but different only as the right and left arm. Both are essential to the welfare and possibly to the existence of the owner.

6. The young farmer should be taught the economic relationship between transportation and marketing. He should realize why he has so little influence with the carrier that takes his crops to market. He should have a thorough understanding of the railroad's side of the case in order to protect his own interests. He should, in short, be instructed in every phase of railroading that affects his business.

7. He should understand how the wonderful progress of invention has increased efficiency and power of the railroads. For example, United States statistics show that in 1884 one freight crew could handle an average of 143 tons; in 1904 by improved machinery and appliances one freight crew was able to handle 310 tons, an increase in twenty years of 117 per cent. of efficiency.

8. That if he entrusts his produce to sale by strangers without bond or recourse of any kind, he may soon be bankrupt. Show him that no successful business can be run on a hit and miss method of selling.

9. The economic influence that steady prices and regular sales have upon the stability of his land values and upon every rural enterprise that may make farm life more attractive and profitable.

* * * *

He should be taught that the old saying, "There is as much room on top for fine fruits as there is for fine intellects," is fallacious. A whole term might be given upon co-operation in all its phases. Indeed this should be the center to which all instruction in economics should tend, for co-operation is becoming absolutely imperative in agricultural lines to offset the influence of great predatory organizations of capital now exacting so much from all unprotected interests.

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# Citrus and Sub-Tropical Fruits

## DON'T SHIP GREEN ORANGES.

THE new citrus exchange of Florida is taking a strong stand on the evil of green fruit shipments. From a recent statement made by Manager Burton to the members is quoted:

"On my recent trip at every point the trade were emphatic in condemnation of the shipment of green fruit. They all agree that Florida's disaster the past few years is due to the shipment of green oranges, which have killed the demand at the opening of the season. The dealers themselves quit ordering, because they can't sell them, turning their attention to Californias, which are not mature, but have a good color and no seed.

"In all cases I have assured the trade that we are going to hold our fruit back until it is ripe. They all agree that this is the proper course. Several dealers to whom I have been selling oranges for 20 years, who formerly handled from 50 to 100 cars Floridas in a season, advised me that they had quit them entirely, on account of the shipment to them of green stock, followed by stock that would not keep. We have orders from some of these dealers for Thanksgiving stock. They don't want it earlier. It must go out ripe and be handled so as to assure keeping quality.

"In New Orleans I saw oranges from Arcadia on the 18th of this month, too green for consumption. The purchaser who claimed to have bought them at $2 delivered, resold the car to Birmingham for 10 cents advance, the purchaser paying the local freight. The New Orleans purchaser stated that he expected to handle Floridas locally, and did not care to put such stock out in that vicinity. The Birmingham purchaser is in competition with two cars ripe California Valencias that went in the same day at about $2.75 delivered. The shipper of this car of green fruit is a menace to the industry. His handling of the transaction shows that he is not in touch with the conditions, and is playing a game of "blind man's buff." Why did he not know that the market was stocked with ripe Californias selling at $2.50 New Orleans auction? And why could he not have sold Birmingham at $2.35, which was about their cost, instead of New Orleans at $2. It is a fact that California is filling all the southeast with her lowest grade Valencias, which are ripe and sweet, at $2.65 to $2.90 delivered, and that the trade will not buy Floridas in competition with them at this stage of the game. Unless these green Floridas are held back until they are mature, an irreparable injury will be inflicted upon every grower. It is the duty of every grower, whether affiliated with the exchange or not, to use his moral influence in restraining the shipment of green fruit. If your neighbor will sell, let him resist and make it a part of the contract that the fruit shall remain on the trees until it is ripe.

"We are receiving orders daily from our salesmen for cars to be shipped in November—others as soon as the fruit is ripe and good to eat. These are mainly in territory that Florida has lost to California. Our people don't want to get impatient about the shipment of green oranges. Let fruit mature on the trees, and go to market when it is wanted. The outlook is very good everywhere. New Orleans has about 300,000 boxes to go forward, but there has been more or less damage to the crop by the recent storm. This fruit will be practically out of the way before the crop begins to move from Florida. California has a shorter crop of navels than last season, and their growers will be slow to move. If we can get our fruit to moving freely and consumers in the habit of eating Florida oranges, they will take them in preference to green, sour oranges from elsewhere. Florida's problem is to overcome the prejudice that has been created against her oranges. It is a matter of handling the first shipment with discretion.

"Throughout this country and Canada the trade as a whole has expressed satisfaction with the efforts of the growers in forming the exchange, as they hope through that medium to see the Florida orange put upon the market in a businesslike way. Many have expressed confidence in the business management of the exchange, and are particularly pleased that the Florida Citrus Exchange is following conservative lines that have been worked out by California, which are familiar to the dealers, and have proved profitable. There is some effort being made by ill-advised newspaper writers to prejudice the exchange movement with the trade by misrepresenting its attitude toward commission concerns. As a matter of fact, this organization is making no fight upon any other plan. It is attempting to so systematize the handling of the Florida orange and grapefruit crop as to make it profitable and pleasant to every factor identified with it. We have no fight to make upon any man or set of men. But we are trying to so shape the trend of the business as to command the confidence and support of every factor that can assist in the proper movement of the crop."

## "IMPRESSIONS RELATIVE TO AVOCADO CULTURE."

THAT the Avocado or Alligator Pear can be grown successfully in Southern California has, I think, been fully demonstrated so far as time and the nature of the case permit. The prolificness and profitableness of the Walker tree at Hollywood and the Chappelow tree at Monrovia, as well as the behavior of some trees of my own and elsewhere, all indicate its adaptability to this region. All the bearing trees that we have are seedlings, however. I do not know of any budded trees which are yet of sufficient age to show what they can do, though there are some which should be heard from before long. Budding the Avocado is successful in Florida, though it is said that there the tendency is to dwarf the tree. That may prove true here also, though perhaps only of certain varieties, or the dwarfing may be only temporary effect of the shock of cutting back and the tree will recover in time. It often happens that the Avocado is slow in adjusting itself to the change of

either transplanting or severe pruning. Should dwarfishness prove a habit, the obvious remedy is to plant nearer together, which will prove to be an advantage when it comes to picking the fruit, for the seedling Avocado is a large tree and the fruit on old trees often difficult of access.

There are, broadly speaking, two types of Avocado in California—the thick skinned and the thin skinned. Of these two the thin skinned kind usually ripens from August to December. The fruit ranges in size from that of a pullet's egg to that of a goose egg, and while a few are green, the color is in most cases approximately violet, purple and dark red. The foliage is almost always green the year round and the leaves long in proportion to their width. The general rule for the thick skinned is that the fruit matures from February to June. Almost invariably they are larger than the thin skinned and fully equal in flavor. The average weight in California is from three-quarters to over one pound. The color when mature is generally green, with perhaps a slight yellow tinge, though I know of one that is purple and one that is nearly white. The leaves of this type may be said to be always oval, and in many cases the tints of the new leaves when they first appear and until they are fully matured are of an exquisite maroon or white color, so that for several months they are especially beautiful and valuable as an ornamental as well as useful tree, and indeed they are beautiful at all times. In this respect they are like their near relative, the Camphor, whose fruit is a miniature Avocado, being built on precisely the same lines except as to taste.

The intending Avocado grower should be very careful about the selection of seeds and young plants. Do not waste time over seeds which have been imported from anywhere except Mexico, and if possible get those which come from the table lands of that country, whose climate is much like our own. Such seeds, together with those of local origin, will give trees which are virtually acclimated and the chance for fruit will be of the best. I know of no trees in California which are bearers at all unless of Mexican antecedents, though others sometimes grow well and make fine trees.

Do not hurry unnecessarily in selecting trees to bud from. Some have done well, to be sure, but there are many shortly coming into bearing, some of which will almost certainly be superior.

My plan is to plant an orchard of seedlings and expect to bud them at about four years of age, selecting the best buds available at that time.

While I try to have a variety of kinds for household use, which will prolong the season as much as possible, when it comes to the commercial orchard I hope to have it composed of some hard skinned sort, ripening from December to June, a regular annual bearer, with a seed which does not rattle round inside, and averaging about one pound in weight. Such a kind would prove the best shipper and the season the best for high prices.—C. P. Taft in Pacific Garden.

## PAPAYA JUICE.

Papaya juice is extracted from the fruit of the papaw tree, which grows rapidly, attaining its full bearing capacity in a year. It produces from 40 to 50 papaws of a dark green color, ripening to a deep yellow, in shape resembling a squash. A very light superficial incision is made in the fruit, and a clear water-like juice exudes therefrom, which becomes opaque on exposure to the air. As it drips from the fruit it is received in a porcelain lined receptacle. As it is very corrosive, metal receptacles would injure its appearance and qualities. It possesses great digestive virtues, and the refined article is considered superior to all animal pepsins.

After the desired quantity has been collected, the juice is placed in shallow porcelain or glass-lined pans and allowed to evaporate. While this is not a very delicate or difficult operation, it requires considerable attention, so that the juice will dry uniformly and the product be white and well granulated. In its granulated state it is shipped to the United States where it undergoes a refining process, and is sold as the papaw of commerce for medicinal purposes.

The ripe papaw is palatable and an excellent aid to digestion. Meat wrapped in papaw leaves for a short time becomes quite tender without any impairment in appearance or taste.

In extracting the juice the hands should be protected by rubber gloves, as in its crude state it attacks the tissues. An average tree will produce about one-fourth of a pound of the granulated juice. It sells in the United States for from $4 to $6 per pound in the crude state. —Philippine Agricultural Review.


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# Deciduous Fruit Culture

## PROTECTING TREES FROM RABBITS.

MANY fruit and shade trees are lost annually by being girdled by rabbits. The season in which most of the damage is done is during the winter months. As that season is approaching it would be well for the orchardist to have in mind some form of protection for his trees in order to prevent such a loss.

With regard to remedies, there are several advocated and these are usually of two forms. The trunk of the tree is either painted with some solution or wrapped with some material. Many patent protectors are on the market such as wire coils and thin sheets of wood. The wire coil protector slips over the tree and can be left on the year around and until the tree gets too large for the coil. Then it must be removed. The price of these protectors is about $2.25 per one hundred. When the sheets of wood are used they are put on the trees in the fall and are removed in the spring. A strip of the wood sufficiently large to extend around the tree is used. It is tied on with some kind of cord, care being taken to tie it firmly so it will stay. There are many more methods of protecting trees than the above, but only the two used at the station by the horticultural department will be described in this bulletin. These are as follows:

Lime wash with arsenate of lead. Paint the trunks of the trees with lime wash made rather thick to which has been added about one-half pound of arsenate of lead to each pailful of the wash. The lime wash is made in the usual manner by mixing lime and water. After adding the arsenate of lead the whole mixture should be thoroughly stirred to mix the poison with the wash. This wash is put on with an ordinary paint brush and the trunk of the tree should be covered as high as the rabbits can reach. It should be renewed if there is any indication of injury to the trees by rabbits. One-half pound of Paris green may be substituted for the arsenate of lead.

Wrapping Trees With Paper. The trunks of the trees are wrapped with paper, the paper being tied on with cord to hold it in place. Old newspapers may be used for the above purpose, the care necessary being to see that the paper entirely covers the trunk of the tree high enough to prevent the rabbits reaching the exposed portion above the paper.

The two last remedies mentioned and described were used during the past winter and spring at the station and they gave entire satisfaction. The latter method of wrapping the trunks of the trees with paper is the cheaper of the two and if the proper care is exercised in putting on the paper, no other protection will be necessary. The paper should be removed in the latter part of spring after danger from rabbits gnawing the tree is past.

The planter in exposed situations should not fail to pay particular attention to this matter of protecting his trees. A little care expended along this line will save his trees from injury, and will more than pay the expense.—J. E. Mundell, New Mexico Col. of Ag.

## FRUIT BUDS AND FROST.

MANY people are curious to know how buds on fruit trees may burst forth into what appears to be full bloom after it is known that the crop has been ruined by frost.

In order to understand this it is necessary to understand the makeup of a flower. In the very center of the flower is found the part which develops into fruit. This has from one to several stem-like parts, called styles, which project above the surface of the flower. The immature fruit with its style or styles, for it will be found to have five in the apple and pear and only one in the stone fruits, is called the pistil. Next come other slender organs, the stamens, which bear sack-like bodies on their ends. Pollen is produced in these sacks or anthers and is the material out of which bees make bee bread. In order that fruit may be produced it is necessary for pollen to be deposited on the ends of the pistils. Here, if conditions are suitable, the pollen grains germinate much like seeds and the germ tube works its way down through the pistil and into the immature seed, where fertilization is accomplished. This is where insects are valuable to the fruit growers, for in a great many instances the parts of the flower are so constructed that the transfer must be made by mechanical means. So without insects to do this work for us some kinds would fail to produce satisfactory crops of fruit.

It will be seen from the above that the pistils and stamens are the essential parts of a flower. None of the other parts are necessary to fruit production. It is generally considered, however, that the brilliant parts are useful in attracting insects. But they may be cut entirely away without injury to the young fruit; in fact, this is quite commonly done in plant breeding.

The young pistil is the most sensitive to frost of all the parts of the flower, and it must be examined before injury can be detected. If it has been injured it will be found to be shrivelled and discolored. The condition of the fruit buds can be determined at any time during the winter by this means. But while the pistil may be dead the petals are often uninjured and may expand as though the blossom were capable of setting fruit. With a little care anyone can determine the condition of the fruit buds in his orchard and all will find this knowledge a source of much satisfaction.—W. Paddock, Colorado Agricultural College.

## NUT GROWERS CONVENTION.

The Eighth Annual Convention of the National Nut Growers Association, held at Albany, Georgia, was one of the largest and most successful in the history of the organization. The membership roll was increased fully thirty per cent.

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Glenn county stock growers report much injury to horses from eating loco weed.

## FRUIT IN THE DIET.

A LONG time ago a man said—I suppose it was a man since it is only of recent years that women have expressed opinions on food topics—a man said: "Fruit is gold in the morning, silver at noon, lead at night," and so because of that delusion we have been cheated of much palatable nutritious food. Now if my opinion were asked, I should say, "Fruit is gold morning, noon, night and between times." While doubtless the small boy would rejoice, the dyspeptic would groan, and I should be obliged to add a few provisos. Fruit is gold when properly combined with other foods—when it is thoroughly ripened—or properly cooked.

As to combinations, we will divide fruit into acid and subacids:

Acid—Sour oranges, plums, lemons, sour cherries, strawberries not thoroughly ripe, sour apples, currants, gooseberries.

Subacid—Prunes, dates, figs, raisins, bananas, peaches, apples, grapes, berries, pineapples.

The acid fruits should not be used in combination with starchy foods, such as cereals, rice, cornstarch, etc., for starch digests in an alkaline juice, which the acid would tend to neutralize and thus cause indigestion. Starch digestion begins in the mouth and is finished in the intestines. The digestive ferment in the mouth is alkaline, while that in the stomach is acid. Protein foods, meats, eggs and milk digest in an acid juice which is in the stomach, hence acid fruits with meat—cranberries with our turkey, apples with pork, currant jelly with beef and mutton—would tend to aid rather than to hinder digestion.

I sometimes meet people who insist that they cannot eat fruit—that it does not "agree" with them. Nine times out of ten inquiry reveals that such people are accustomed to eat excessive quantities of sugar with their fruit. Indeed I have come to believe that fully 60 per cent. of us do not know genuine fruit flavor, so general is the habit of disguising it with sugar. Sometimes this is the fault of the cook; but very often hurried eating prevents the appreciation of fine flavors not only in fruit, but in the vegetables and other food. We try to supply the apparent lack by adding sugar, or salt, pepper and spices. Elderly persons are much given to eating a large amount of salt, a habit which, probably had its rise in an improper habit of eating too fast.

When much sugar is eaten with fruit, or with cereals, it is almost sure to cause fermentation, for which the fruit or cereal receive the blame instead of the sugar to which it rightfully belongs. Cane sugar—by which is meant all commercial sugars—must be digested; while the sugar of ripe fruit known as "grape sugar," is ready for assimilation as soon as it reaches the digestive tract.

### Dried Fruits.

When we advocate the daily use of fruit—fresh fruit when it is obtainable—some one is sure to ask "where will we get it?" I know of but one way, and that is to plant more trees, bushes and vines. One woman I know who lives in town has grapevines growing on her back fence and back porch. She says, "A back fence is not a beautiful thing; a grape vine is beautiful, so why not cover the fence with the vine?" Sure enough! Why not?

"But to resume and continue on"—if we have not fresh fruits, we must substitute dried. If the best ways of preparing dried fruits were more generally known, they would be in greater favor.

We associate prunes with cheap boarding houses, and think of a hard, tasteless chunk floating in a brown, sweetened liquid. I mention prunes for it is the most abused of dried fruits .

Try this way of preparing prunes, and if you have been used to the boarding house variety you have a surprise in store.

Wash the fruit through two waters, using about one quart of water for a pint of prunes. Then put them into the cooking vessel with enough cold water to cover. The amount will vary ith the shape of the vessel—generally a quart of water to a pint of prunes; let them soak over night. Stand the cooker on the back of stove where the fruit will heat as soon as the fire is built. Keep hot all day. Do not allow it to boil, but keep just below boiling point. Do not add any sugar. If the water has not cooked away enough to make a thick syrup at the end of the all-day cooking, drain it from the fruit and cook down in a separate vessel. Pour over the fruit, cool, and serve. Keep the sugar bowl out of reach and learn the real taste of richness in the fruit itself. This way of preparing will apply to all dried fruits excepting raisins and apples.

Raisins should be put to cook in cold water to cover, allowed to boil five minutes after boiling point is reached, when they are ready to cool and serve.

Dried apples are, as a rule improved by a small amount of sugar and a suggestion of spices or lemon peel.

Figs bought in the five-pound cartons may be prepared in the same way as prunes are and canned. I find it convenient to use pint cans. The fruit is so rich that a small serving suffices.

### Fruit Combinations.

Cereals are almost universally used as part of our breakfast menus. Perhaps they grew monotonous and made us seize with such avidity the prepared foods which have been flooding our markets. If the cereals are served with fruits the family will never complain of monotony. Remember, however, to use the subacid fruits. Try some of the combinations:

Wheat preparations—with stewed raisins, bananas, dates, or stewed figs.

Oatmeal or rolled oats with baked apples or dates.

Do not serve a great quantity of the fruit with the cereal, hardly enough to change the flavor, two tablespoons of the stewed fruits to four persons. Two baked apples or two bananas to four persons being the right proportion. Dates should be seeded and cut fine. Add the raisins, dates or figs to the cereal a few minutes before serving. The bananas or baked apples should be served in each individual dish instead of being "mixed" with the cereal in the cooker. At least twice a week have fruit instead of the cereal. Fresh if your market and purse allow; or canned if it is in your store house. If neither of those resources then the dried fruits.—St. Jo. Fruit Grower.

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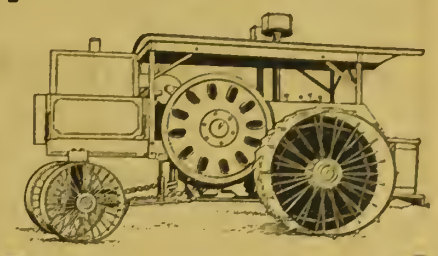

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We have the most complete Nursery in the . . . .

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MORAEA IRIDIOIDES. An exceedingly rare and beautiful flower related to the Iris, but one which blooms frequently, or every time it is irrigated, during the entire summer. The blossom is from 3½ to 5 inches across, resembling white satin worked in silk with bright yellow, brown and light purple. The plant is hardy, evergreen, and from one to two feet high. It is a native of Africa.

Price—Single Plants $.50
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Fruit growers of Paradise, Butte county, are planning to build a large packing and shipping plant.

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For 24 years we have supplied our customers in all States with Trees and Seeds that GROW. We carry a most complete line of **Fruit and Ornamental Trees, Berry Bushes, Roses, Perennials, Bulbs, etc.** Low prices. Best quality stock only. Pacific States varieties of Apples, best one year trees at $6.00 per 100. Peaches $5.00 per 100. We pay freight on $10.00 orders.

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Will yield more berries, and have fewer runners than eastern stock. Breeding plants carefully selected each year and not allowed to fruit.

## Superb--Everbearing

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Send Stamp for our elegant new catalogue containing description, prices and cultural directions.

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In large or small quantities, 33 kinds to select from. Write for free pamphlet "Eucalyptus Culture." It gives full directions for sowing the seed, raising the plants and planting out into the field, together with descriptions of all the leading species, giving their uses and the localities to which they are adapted. Sample packets 15c each, 2 for 25c, 4 for 50c, 9 for $1.00. Choice Flower, Garden, Tree and Palm Seeds, Roses, Flowering Plants etc. Catalogue mailed free upon application.

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Barr's Mammoth, Conover's Colossal, Columbian Mammoth White and Palmetto. 1-year-old plants grown from finest seed obtainable, $1.00 per 100, $5.00 per 1,000, cash, express prepaid. Delivery in December, order now. Special rates on large quantities. Correspondence solicited.

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## EUCALYPTUS TREES AND SEED

**SUNSET HORTICULTURAL COMPANY**
**Inglewood, California**


# Small Fruits and Vegetables

### THE SPIDER IS A BENEFIT.

WHENEVER nature has planned to perpetuate a species through the ages she has also schemed to check its undue increase, rarely permitting, for any length of time, a multiplication beyond easily supported numbers. There has rarely ever been a scarcity of food, and this has not entered into the problem; she has, therefore, adopted other methods, and these have been effective, so much so that the destructive has sometimes overmatched the creative, and this often through the agency of predacious species.

We commonly think of the tiger, the shark, the weasel, the hawk, the snake, as creatures that prey upon others, but blood-thirstiness is even more exemplified in the insect world by the adephagous robber-flies, hornets, long-billed assassin bugs, and caraboid beetles. And then we have the spiders, killers all of them.

It is deservedly popular to defend and extol the birds. They are beautiful things, the chiefest and best performers in nature's orchestra, and all that sort of thing, and they do a wonderful lot of good for man. But did you ever think that birds are in the insect-destruction business for their own stomach's sake, not ours, that they are not economic entomologists, and that many harmless and very beneficial insects suit the avian palate as well and very often better than do the noxious species? This limits the good that the birds perform, and the same can be said, also, of all insectivorous animals.

Since time prehistoric, ever since the human species developed the sense of comparison and an eye for form, all spiders, with a resemblance to the big, hairy, ugly creatures reputed to be poisonous and now generally known by the name "tarantula," have been the victims of the crushing heel.

I think it can be said that there never has been one absolutely authentic case of spider bite. The so-called spider bites received occasionally, and generally in early summer, often in bed, are inflicted by certain blood-sucking insects of several species, large and small. The mandibles of the average-sized spiders are hardly powerful enough to pierce the human skin, and all of the poison contained in an arachnoid's glands, injected into the flesh of a human being, will not make as much fuss as a respectable bee sting. Moreover, spiders are not mammal blood suckers, and wouldn't bite if they could. So much for the negative qualities of spiders.

If it were not for the spiders we should all promptly starve to death. Perhaps this is a little startling; it is none the less true. To enlarge upon it, certain spiders prey upon certain caterpillars, regularly inhabit their abodes, and kill so many of them that often whole colonies of the insects are wiped out of existence. These caterpillars normally feed upon the leaves of trees, bushes, and shrubs, frequently entirely denuding a plant. If they were plentiful enough to exhaust their common food they would turn to the weeds and grasses. Without check of any kind they would overrun the earth and destroy every green and growing thing. The spiders beautifully preserve the balance of nature.

Kill all the spiders and mankind is doomed.—Colliers.

**Placer County Berries.**


## Eucalyptus

We have the following varieties in stock at this date.

Eucalyptus amygdalina (Peppermint Gum);
500 Cornuta (Yate Tree);
Crebra (Narrow-Leaf Ironbark);
168,000 Globulus (Blue Gum);
Goniocalyx (New South Wales Blue Gum);
1000 Leucoxylon (Victorian Ironbark);
3000 Polyanthema (Red Box);
1000 Resinifera (Red Mahogany);
700 Robusta (Swamp Mahogany);
32,000 Rostrata (Red Gum);
13,100 Rudis;
53,300 Tereticornis (Forest Red Gum);
28,000 Viminalis (Manna Gum);

Address

**W. A. T. STRATTON**
Petaluma, Cal.

## Eucalyptus

We have a very fine lot of these trees in variety, ready for immediate shipment.

### Orange and Lemon Trees

Our Citrus Trees are of the very best one and two year buds. We claim to have the finest trees on the market for the next season's planting, in any quantity. We are also large growers of

### Palms, Roses, Fruit Trees

and other stock. Call and see our stock or write for our prices.

**Armstrong's Covina Nurseries**
222 E. College St., Covina, Cal.

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We have ready for immediate shipment
**100,000 BLUE GUMS**
fine, healthy stock.
Write for our Eucalyptus circular.

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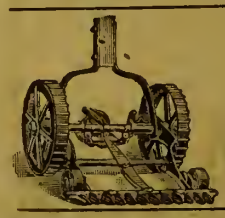
## Eucalyptus Trees

**Red and Blue Gum**

Specially prepared for cheap transportation and safe transplanting. Write for particulars to

**HENRY SHAW, Santa Cruz, Cal.**



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Will cut tall grass and weeds and do all the trimming along the walks and drives. Your dealer should have them—if he has not drop us a line and we will send circulars and prices.
**Clipper Lawn Mower**
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## Trees Eucalyptus Trees

For fall and early spring planting. Our interior valley climatic conditions make hardy plants. Best to ship. Best to plant. Our trees grow. Prices right.

**The Southard Nurseries**
**Redlands, Cal.**

# The Ornamental Garden

### FINANCIAL ADVANTAGE FROM TREE PLANTING.

TOUCHING upon the matter of trees along the roadside and their addition to the appearance of any community Prof. C. F. Baker writes this to his home paper, the Courier of Claremont.

Cutting out all esthetic considerations, which alone weigh heavily with many, and reducing the whole matter to a cold-blooded proposition, trees and shrubs on any residence property in any town or city represent most distinctly an asset expressible in dollars and cents. Other things being equal is there any doubt of the decision of a possible purchaser between two lots, one of which is barren of trees and in a dirty abandoned condition and another clean and well kept and with a few good trees and shrubs? The actual cost of swinging a scythe over a lot two or three times a year is altogether trivial and it makes the lots worth more. Likewise the initial cost of trees and shrubs is trivial, and sorts can easily be selected that will do well with a minimum of water and care. A lot kept clean and tastefully planted, adds several hundred dollars to its price and you will get it. I have known of men who have contracted to do this work at absurdly low figures for all vacant lots in several towns, and it paid the owners and all the interests of those towns, public opinion practically forcing some degree of improvement in all vacant property. Even in the case of long-time holdings, lots could be made to pay their own taxes and yield a profit from the planting of trees for firewood.

During this summer I made a visit to the town of Northfield in Minnesota, where, at an early day in its history some exceedingly wise, canny, and far-seeing men decided to plant the residence district to solid avenues of maples and elms. The result is one of rare beauty—even magnificence—and of incalculable actual money value to the property interests of the town.

Even if the planting could only be unlform for a single block in length, it would be an immense advance over the condition now existing in a large part of our town.

It avails little to plant trees and shrubs if they are not to be taken care of, but exceedingly little care is necessary to shape up a good tree. It all depends on the first few years—after that it is often too late. It usually does not take five minutes per tree per year to give the tree a proper shape. Some of the trees we use in yards and streets live in a natural state in groups and thickets, and when placed alone, will, like some of the acacias along our streets, become completely misshapen unless given a little attention. Some of the eucalyptus like ficifolia, calophylla, and robusta, often act this same way. Robusta is commonly condemned as a street tree, though with a little care it could easily be given as fine a form as any eucalypt. There are some trees that make fine tops with almost no attention, such as the black acacia, camphor, bottle-tree, umbrella tree, and a few of the eucalypts, but the majority of trees, will absolutely need, or be greatly benefited by a little pruning each year. It pays to plant trees and to take care of them!—C. F. Baker.

The California Poppy.

### TULIPS.

The character of this class of bulbs is only beginning to be understood in Southern California. After years of experiments, mostly unsuccessful and disappointing, we have learned that early flowering varieties are not adapted to our climate, it being a waste of time and money to plant them. The late flowering sorts are quite as fine here as they grow "back east."

Heavy soil, either clay or adobe, seems to produce the finest flowers on stems 12 to 20 inches long and should be planted six inches deep, with a little sand in the bottom of the trench and a liberal covering of stable or dairy manure on top of the soil, the fertility of which will leach to the bulbs.

If sweet alyssum or forget-me-not be planted on the bed about December first their small flowers and foliage will form a pleasing contrast to those of the tulips and lend a charm to the bed it will not otherwise possess, but plant the tulips now.—Pacific Garden.

Coachella Valley reports her oranges now fully ripe.


## $1000 to $1500 Profit per Acre

Can be made on Crimson Winter Rhubarb. It is one of California's most profitable products. We make this statement after actual tests. We have made a study of the production of

**Crimson Winter Rhubarb**

and find it easier to grow and less care and labor than corn or pumpkins. Plant an acre and reap an annual harvest of $1000 to $1500 or plant several acres and become wealthy in a few years.

J. B. Wagner

Better than a gold or any other mine.

Three Varieties of Rhubarb

***If you are interested and want to know more about this money maker, fill out the coupon attached, and mail.***

**Mail This Coupon Now**

Anyone having good land can get credit on plants. For full information and circulars, send this to

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## Burr Clover

The best cover crop. We can offer it at a reasonable figure. Write to us for prices on this and other green manuring crops.

**Get Our Prices on New Crop ALFALFA SEED.**

## Onion

White Bermuda, Red Bermuda, Crystal Wax, New Queen. Now is the time to plant early onions in the Great Inland Valleys of Southern California. And we would especially call your attention to our line of imported onion seed. They are all True to Name and "Full of Life." Get our prices on large quantities.

## Sweet Peas

Plant the early varieties now for flowers this fall. The following varieties bloom in 50 to 60 days from planting. 10c per packet, 3 packets for 25c. ***Morris & Snow's Earliest Pure White*** (Gould). ***Earliest of All,*** pink and white, very early. ***Bodger's Earliest Pink,*** New. Proved a great success last year. As early as the Earliest Pure White. (We control this stock.) ***Mount Blanc,*** pure white.

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## Eucalyptus Trees for Fall Planting

It has been demonstrated in the San Joaquin Valley that the best time to plant Eucalyptus trees is about the first of November, or as soon as the rains have thoroughly soaked the soil.

We have 200,000 trees of various varieties just the proper size for fall planting. We would advise that you place your order early, as there are very few trees to be had at this time of the year.

**Aggeler & Musser Seed Co.**

**113-115 N. Main St., Los Angeles**

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Trees Plants Bulbs

Just received new importation **Holland Bulbs**

HYACINTHS TULIPS NARCISSUS CROCUS IRIS

Plant Now

If you are interested in Best Seeds, send for our Catalogue. Mailed Free.

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## H. L. BAUER & SONS

737 So. Spring St., Los Angeles, Cal.

We grow large palms, street and ornamental trees, flowering scrubs and roses. Write for prices.

# Irrigation and Forestry

## TEACHING NEED OF FORESTRY.

TEACHERS throughout the country have been invited by the United States Forester to co-operate with the Forest Service in an effort to obtain more definite knowledge of the characteristics of the most important forest trees of the United States. To do this it will be necessary to obtain a large number of volunteer observers who will collect material on the time of leafing, blossoming, and fruiting of the various kinds of forest trees. In his letter inviting the co-operation of the teachers, Forester Pinchot says:

"Knowledge of this kind is greatly needed and will be of value from the standpoint both of education and of practical forestry. For educational purposes the results obtained for each species, averaged and presented graphically by means of colored charts, will be available to all who are interested in the subject, and particularly to schools. They will form virtual "tree calendars," and will be valuable aids to nature study.

"Children can be readily interested in the actual work of obtaining records. This should form an attractive outdoor feature of the school work that should serve to develop the faculty of accurate observation, and at the same time to promote an interest in forestry which may lead to a better appreciation of its aims and methods. It may also prove to be a profitable addition to botany courses for older students.

"A study of this kind will be of great value to practical forestry, since the proper treatment of forests depends partly upon a knowledge of these characteristics of trees. For example, the time of year at which a tree leafs out and blossoms is one of the indications as to whether or not it is frost-hardy in a given region, and the length of time that a tree is in leaf influences the growth it is able to make during the season. Knowledge of the time when seeds of each species ripen in various localities is of great value to those who are collecting seed, since seed often deteriorates or is eaten by squirrels and birds if not gathered and stored as soon as ripe.

"Another result of this study will be a more intimate knowledge of climate as manifested by plant growth, for differences in climate are shown by plant life as well as by instruments, and a preliminary idea can thus be gained as to whether a given region is suited to a valuable tree which it is desired to introduce there. Many such examples could be given, but sufficient has been said to show that the results of these observations will be a real help to practical forestry, in addition to their general interest and educational value. Volunteers will later be supplied with publications and charts containing the information they help to gather, as a return for the services rendered."

## HOW HARDWOODS DECAY.

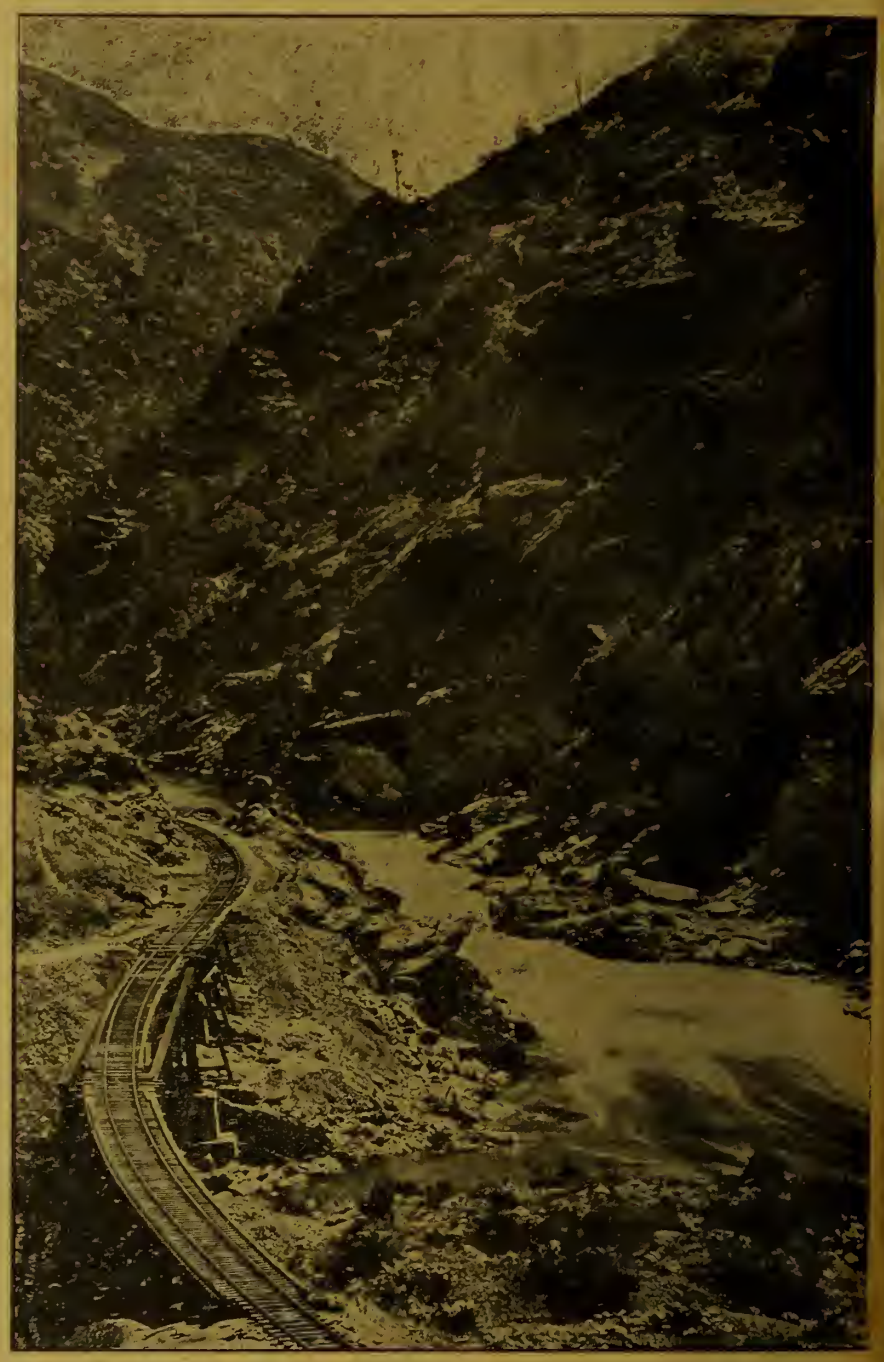
Hardwod trees in the forest are attacked by many enemies. The mistletoe, the "witches' broom," and the southern mosses are all parasites that weaken and even destroy the trees. But by far the greater number of diseases of trees are caused by fungus growth. Some fungi destroy the leaves, some rot the roots, and some girdle the bark. Chestnut orchards have been destroyed in many places in the East by a kind of fungus which girdles the bark and kills the tree.

Then there are many kinds of fungus which rot the wood of standing trees, with no outward sign until after the value of the tree has been destroyed. The white heart-rot is the most common of these. It attacks the oak, walnut, hickory, beech, maples and many other trees. The heartwood of the tree is changed by the action of the fungus into a light-colored, flaky sort of substance which has no strength and can no longer be called wood. Such a tree may live for many years, even though badly diseased, but it has no value for timber.

The outward sign, when it does appear, is a shelf-like growth upon the trunk. It is hoof-shaped, about as thick as wide, and may be anywhere from 1 to 2 inches wide to 12 inches or more. The upper surface runs from brown to black, the lower surface from gray to red-brown. Wherever such a tree is found it should be removed at once, for the longer it stands the less it is worth for timber, and it will surely spread the disease to other trees. Any sort of wound in a sound tree, such as a broken limb, gives an opening for the fungus to enter and establish itself, unnoticed until the heartwood is destroyed. Wherever such a wound can be promptly coated with hot coal-tar creosote, or some other good antiseptic substance, it may be saved from infection.

Timbers are also subject to attack from many kinds of fungus. Indeed, fungi are the principal cause of decay in structural timbers. They enter the timber by means of checks and live upon the wood, breaking it up until its strength is gone. Railroad ties in the roadbed often appear perfectly sound, although the whole center has crumbled.

After timbers have been cut from the log they should be dried as rapidly and evenly as possible so as to remove the moisture and prevent checks. Wood should not be placed in contact with the ground until it has been thoroughly dried. Otherwise some fungus will enter and cause rapid decay. Where large timbers are needed, they will be less liable to decay if built up of several pieces; for instance, instead of using a 12 by 12 piece, use four pieces 3 by 12, bolted together. Timbers can be even more effectively preserved against decay by chemical treatment with creosote and other substances.



A Mountain Canyon

The supervisors of Madera county are distributing poison to farmers and urging a persistent fight on ground squirrels.


**Rex Lime and Sulphur Solution**

**The Famous Insecticide and Fungicide**

It has been found that Rex Lime & Sulphur Solution used in the early part of the season is as effective for Blight as the Bordeaux Mixture, and it does not have the injurious effect upon the tree as Blue-Stone. In Oregon and Washington the use of Bordeaux is being entirely eliminated and lime and sulphur solution used for all purposes. The leaves are falling from the trees, and especially the Peach, Almond and Apricot should be immediately sprayed for the first spraying. The second spraying should be done on all trees just before the buds open in the Spring.

Rex Lime & Sulphur Solution is a guaranteed article; properly prepared; free from sediment, and as cheap, if not cheaper, than the farmer can make a mixture himself.

For particulars inquire of your dealer or write to the factory at

**BENICIA, CALIFORNIA**

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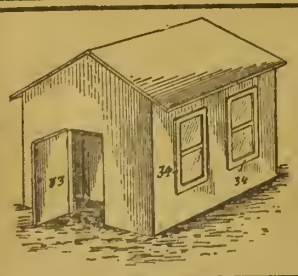
**Laying Hens $10 Dozen**

We have over ONE THOUSAND PURE BRED WHITE LEGHORN HENS AND PULLETS ON HAND. THESE WE OFFER AT $10 PER DOZEN STRAIGHT AS LONG AS THEY LAST. WE WILL ACCEPT ORDERS FOR SIX OR MORE AT THIS PRICE AND CRATE FOR SHIPPING FREE. PULLETS ARE JUST READY TO LAY AND MANY OF THEM ARE LAYING. Hens are over the moult and are from 10 months to 12 months old. We have a few that are 18 months old. The price is $10 per dozen for any of the above. Send your order at once and state exactly what you wish. If you want other breeds we have them also, both pullets and laying hens. But write us anyway. Send for the baby chick and hatching egg book. We are selling 2500 chicks per week right now.

**Pioneer Hatchery, 112 East Eighth, Los Angeles**



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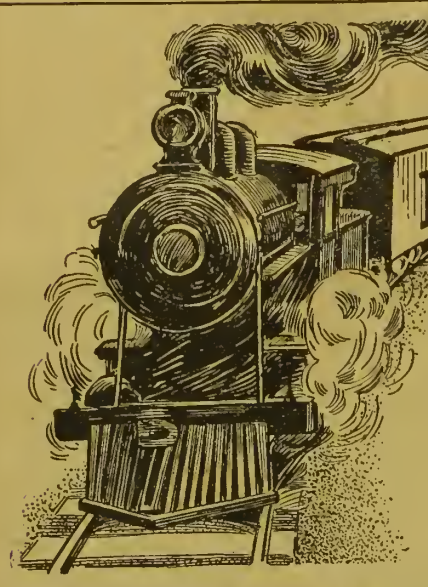


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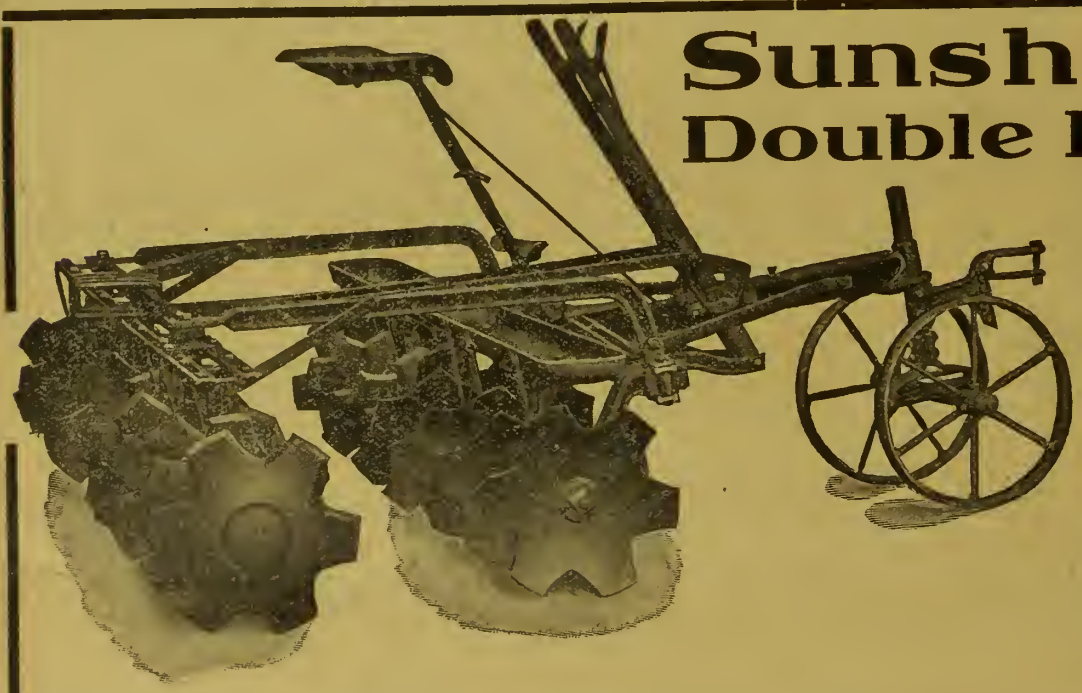

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## HEAVY DRAINS ON NATION'S FORESTS.

"THE TOTAL yearly drain upon our forests, not counting losses from fires, storms, and insects, is some twenty billion cubic feet," says R. S. Kellogg, assistant forester in charge of the office of forest statistics, in a publication just issued by the Forest Service on "The Timber Supply of the United States."

"Our present forest area of 550 million acres may be roughly estimated to consist of 200 million acres of mature forests, in which the annual growth is balanced by death and decay, of 250 million acres partially cut or burned over, on which, with reasonable care, there is sufficient young growth to produce in the course of time a merchantable, but not a full crop of timber, and 100 million acres of more severely cut and burned over forests, on which there is not sufficient young growth to produce another crop of much value.

"Taken as a whole, the annual growth of our forests under these conditions does not exceed twelve cubic feet per acre, a total of less than seven billion cubic feet. That is, we are cutting our forests three times as fast as they are growing. There is menace in the continuance of such conditions. While we might never reach absolute timber exhaustion, the unrestricted exploitation of our forests in the past has already had serious effects, and it will have much worse if it is allowed to continue unchecked.

"White pine, for instance, which was once considered inexhaustible, has fallen off seventy per cent in cut since 1890, and more than forty-five per cent since 1900. The cut of oak, our most valuable hardwood lumber, has decreased sixteen per cent since 1900, and that of yellow poplar twenty-two per cent. The same story will be told of other woods if they are not conserved.

"The fact that timber has been cheap and abundant has made us careless of its production and reckless in its use. We take 250 cubic feet of wood per capita annually from our forests, while Germany uses only thirty-seven cubic feet, and France but twenty-five. On the other hand, Germany, who has learned her lesson, makes her state forests produce an average of forty-eight cubic feet of wood per acre. We have as fast-growing species as Germany, or faster, and as good or better forest soil if we protect it.

"The necessity for more farm land may eventually reduce our total forest area to 100 million acres less than it is at present. It is entirely possible, however, to produce on 450 million acres as much wood as a population much greater than we have now will really need if all the forest land is brought to its highest producing capacity and if the product is economically and completely utilized. But to reach the necessary condition of equilibrium between timber production and consumption will take many years of vigorous effort by individual forest owners, by the States, and by the National Government. None of them can solve the problem alone; all must work together."

---

The Tulare county board of trade is planning for an extensive exhibit of the products of the county at the Citrus Fair to be held at Dinuba beginning November 29th.

# Bees and Their Care

### HOW TO BUY BEES.

In looking for colonies to buy it is well to select them from yards in the vicinity of the place where we expect to establish an apiary, if such can be found, for in this way no more bees are brought into the locality. This is a strictly business proposition, and the amount that one can afford to pay extra for colonies that are already within perhaps a mile of the proposed apiary is a little hard to tell. The number of colonies a location will support, and the number already there, are determining factors. If the beginner has any doubts as to whether the location will warrant his bringing in new colonies, he should buy them near home, even if the price is twice what it would be at a more distant point.

During my early experience in bee-keeping there were a good many small apiaries around me, isolated from other yards, so that the bees had unlimited pasturage; and these few colonies in a place always gathered more surplus honey than those in the main yards where perhaps a hundred colonies were kept. The fewer bees in a given location, the larger the crop of honey, other things being equal.

#### When To Start.

An inexperienced bee-keeper need not hesitate to buy bees any season of the year. Some of the best bargains are found in the fall, for it is then much easier to buy bees than in May, when the prospect of a honey crop is near at hand. However, for one without experience, May is the best month to purchase bees, for he will be sure of having them through one surplus season at least before he has the wintering problem to contend with, and this much experience will help him in the solving of the wintering problem.

#### Not Necessary To Buy Old Hives.

When buying bees, see that the combs are in good modern frames of Langstroth size. The hive is of secondary importance; for if the combs are of the worker size, and straight and true, they can be transferred to frames in new hives. This is the way most of our buying is done; for after the bees are transferred the old hives are returned, for we do not want them. If the beginner were to buy three or four old hives, and use them in connection with new ones, they would never be satisfactory. It usually happens that bees can be bought enough cheaper without the hives to make it more economical all around to buy new hives outright.—Gleanings.

### HOT OR COLD UNCAPPING-KNIVES

Whether an uncapping-knife should be hot or cold is a question that can not be answered by saying that one way is better than the other; but, as a rule, I think that the knife should be cold. This statement, I know, is not in accord with the views of many bee-keepers in the West and some other parts of the country, perhaps. In my mind, I can see the bee-keeper on the Pacific coast as he says, "Well, I should like to see you uncap sage honey with a cold knife;" but I should like to ask such a person when he ground his honey-knives last. His reply probably would be that the knives were ground some time last season.

To uncap honey the knife should be sharp and clean. If it has these two qualities, and is in the hand of a person who knows how, almost any kind of combs can be uncapped as fast as the largest extractor now made can extract them.

The way to uncap honey is to have two knives ground sharp and clean. The knife that is not in use should be placed in a pail of water, and when the knife that is in use becomes dull and gummy, after perhaps from half an hour to three hours' use, the time depending on the kind of combs, it should be changed for the other one. Each time the knives are changed a moment's time should be spent on the blade with a whetstone. Not only should the edge be brushed up, but the whole blade should be gone over to remove the gummy coating that has formed, for it is this gummy coating that causes most of the trouble.

Of course, there is honey that can not be uncapped with a cold knife, but it is not honey that has been recently gathered. I have yet to see honey that has just been gathered that can not be uncapped with a cold knife.

And now as to the way to cut the combs. Only the upper edge of the knife should be sharp; the lower edge should be dull, so that it may be used for trimming the wax off the top-bar. Do not uncap with a sawing motion unless the comb happens to be an old black one that can not be uncapped otherwise. A draw cut is much faster and smoother.

The advantages of working with a cold knife are many. No oil-lamp is needed to heat up the extracting-house, and possibly set fire to it; there is no changing of knives every comb, and, last of all, more work can be done and with much less bother.—Gleanings in Bee Culture.

### A NECESSITY.

Honey has a great sweetening and otherwise delectable power. Many look upon it as a luxury, and sugar as a necessity. At present the latter is true enough, but I wish I might do something to change the former. It is not expensive, needs no dissolving, cooking or manipulation. It has different flavors according to the variety of flowers from which the bees have gathered it, but almost all are proverbially pleasing.

Sugar, candy and syrups, as well as sweetened medicines, have been much adulterated. But a jar of honey labeled "pure" is pure. Almost all bee keepers who raise honey in sufficient quantities to be able to place it before the public, are members of national or state associations, are very jealous for the absolute purity of what is upon the market, and are urged to this by every bee keepers' magazine in the country.—Ex.

If the apiary is operated for extracted honey, use a queen-excluding zinc between the brood nest and the extracting supers, as this prevents the presence of brood in the extracting supers—a positive nuisance in extracting.


# CALIFORNIA CULTIVATOR CLUBBING PRICE LIST

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# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California. as Second-Class Matter.

Thursday, November 18, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

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## Notice to Subscribers.

OUR PATRONS are warned against paying money for the Cultivator to one C. W. or C. N. McDonald. He has been operating in the Imperial Valley and may show up in other sections of the state. A reward will be paid for information that will lead to his arrest and conviction. He has never been employed by this paper and is simply a thief.

All our authorized agents have letters and other evidences of their right to receive money, and these will be shown on request. Demand it if there is any reason to suspect crookedness.

## Protection from Pests.

THE FRUIT GROWERS of Porterville have fallen into line and organized a protective league in order to insure their orchards against the encroachments of insect pests. In fact, the league is organized to have oversight over the welfare of the entire fruit growing industry, but the motive for the organization is the possibility of fruit tree pests being introduced. The community has made a strenuous fight for several months against the bringing in of lemons or other infested fruit from other sections.

Lindsay has perfected a similar organization and several citrus growing sections of the south took such action months ago. The purpose of the league is not in any sense to touch market questions, merely to protect orchards. An initiation fee of one dollar is charged, then a further payment of five cents per acre upon all acreage represented in the membership is required as a fund to aid in the work of the organization. One feature which calls for action by the Porterville league is the fact that the new horticultural law in providing a wage of $3.50 for the office of horticultural inspector, made no provision whatever for the expense of going from orchard to orchard and from one community to another. The Porterville growers will meet this difficulty and supply inspectors of that county with expense funds.

## Irrigation Committee.

THE SENATE COMMITTEE on Irrigation has made its tour of the state, entering California on November 6th, visiting Lake Tahoe, Orland, Sacramento Valley, Red Bluff, and Imperial Valley, leaving the state at Yuma. The Committee apparently was out for business and did but little stopping at the larger centers. At Los Angeles the train only halted, being late in arriving, so that only one or two members of the Committee were seen. The Committee consists of Senators Carter, Jones and Warren, and was accompanied by Director F. H. Newell and Chief Engineer Davis of the Reclamation Service.

## Culls Selling for Big Prices.

AT THE PLACER COUNTY fruit growers meeting at Loomis recently the remark was made that grade of fruit did not control the price, for several growers have sent culls to market and received for them much more than for extra fancy fruit shipped at almost the same time. The feeling is very common among fruit growers, and we know of particular instances which tend to confirm such a belief. For example, some years since after a heavy windstorm had blown many oranges off the trees, the fruit, immature and injured by the buffetings of the wind, was sent to market and brought larger returns to the growers than any shipment made later in the season. Of course there were circumstances such as bare market, desire to secure early fruit, and possibly other factors which combined to unload these oranges upon a retailer who may have suffered severely in his efforts to dispose of them, and this left such a bad taste in his mouth that it resulted, or at least aided in a poor market for the entire remaining season. Often, as was mentioned in the Loomis meeting, a packer will have desperate need of a few more boxes to fill a car for an order and will offer a high grade price for anything that will fill up.

Let not the grower for a moment believe that his low-grade fruit will, year in and year out, command anything but a low grade price. The incidents mentioned are no proof to the contrary. The grower who will conscientiously produce high-grade fruit and then insist on a high-grade shipper giving him a living price for it, will in the end win out, and should not be discouraged by the fact that his neighbor's indifferent methods have been unduly rewarded.

## Lemon Rate.

THE DETERMINATION of the railroads to take advantage of the increased tariff on lemons and take to themselves the profits, has stirred up not only the lemon men, but the entire country. The most active and effective opposition has been manifested by the Citrus Protective League, an organization of practically all the citrus growers of California brought into being to handle just exactly such a situation. This league has taken the matter into the United States Circuit Court and has secured a temporary restraining order against a slight advance in local freight rates to certain points of the Northwest. The more general advance in the freight tariff is scheduled to take place on December 6th, but that, together with the local Northwestern rate, will be discussed and probably decided on November 22nd, which date is set for the hearing. The docket is so full that it is not absolutely certain that it can be heard at that time, and if that is the case, a restraining order may possibly be secured on the more general advance of fifteen cents per hundred over the entire East.

## "Figgers Don't Lie."

THE PRESS of the state seems to be having much merriment at the expense of the Santa Fe Railroad Company which has been distributing a booklet of "valuable information" to its patrons coming from the East. It contains some statements that are so absolutely raw that it appears the newspapers are amply justified in their sport. One item states that the real estate valuation of Los Angeles county is $3,997,729.17. Such papers as are located in that county are anxious to have these figures presented to the state board of equalization. Another Los Angeles county item pertaining more particularly to agriculture is that there are some 65,000 tons of wheat, barley and corn produced in that county at a valuation of over $15,000. This is at the rate of about twenty-five cents per ton, which the farmers feel is not quite sufficient. Orange county is another liberal feeder of the Santa Fe lines. It is given credit for having a real estate valuation of $175,000. The publication is slightly more generous to Santa Barbara county, giving it a valuation of more than six times that of Los Angeles and Orange counties combined. San Bernardino has a set-back, being credited with $206,911.65. We suppose the sixty-five cents was put in for good measure. That county also produces over 53,000 tons of alfalfa to the value of $7,750 or fourteen cents a ton.

These interesting items are only a starter, as there are a large number of equally as absurd figures given in the book.

## Farmers' Institutes.

J. B. NEFF, Director of Institutes for Southern California, reports dates as follows: Calexico Nov. 29, Holtville Nov. 30, El Centro Dec. 1 and 2, Imperial Dec. 3, Brawley Dec. 4, Coachella Dec. 6. Other institutes with dates not definitely settled, but probably the week of Dec. 13 to 20, will be held at Arlington, Bloomington, Colton, Beaumont and Banning. A special bee keepers' institute is being arranged for Santa Paula on Dec. 22 and 23. Possibly another, devoted largely to apiculture, may be held at Colton Dec. 28 and 29.

## Yuma Lands.

THE CULTIVATOR recently made editorial mention of the opening to entry of the Yuma Indian Reservation and gave the date as early in January. The item was taken from a Yuma paper which is so close to the allotment that we took it for granted it had the information at first hand, but the editorial brought so many queries to the office that we took the matter up with the Department at Washington and have received word from the Commissioner of the General Land Office in effect:

"As to the opening of the Yuma lands in California and Arizona, you are informed that neither time nor method of opening same has yet been determined, and application for registration cannot be received at this time. Ample public notice will be given of time and method under which these lands may be entered."

The Cultivator Clubbing list on Page 493 this issue.

Neither the farmers nor their hired hands can work through combinations as readily as the capitalists or wageworkers of cities can work. It must not be understood from this that there has been no change in farming and farm life. The contrary is the case. There has been much change, much progress. The granges and similar organizations, the farmers' institutes and all the agencies which promote intelligent co-operation and give opportunity for social and intellectual intercourse among the farmers, have played a large part in raising the level of life and work in the country districts.—Theodore Roosevelt.

# Agricultural News Notes of the Pacific Coast

## Northern California

Contra Costa County grows about 1800 acres of celery.

The alfalfa grinding mill is now assured for Gridley, Butte county.

Growers of alfalfa hay over the valley report a very satisfactory season.

Alta, Placer county, is shipping some fine mountain apples to eastern markets.

The sugar company with plant located near Hamilton City, has leased 900 acres near Chico.

Butte county's output of oranges is showing up well and it is evident that it will be the bumper crop.

Marysville turkey growers expect about twenty cents per pound for live turkeys for the Thanksgiving trade.

Dickson has incorporated a $75,000 company which will plant large acreage to alfalfa and establish dairies.

Twelve acres of alfalfa near Ball's Ferry, Shasta county, produced 105 tons of baled hay. The land is unirrigated.

Butte county is to maintain an extensive and attractive exhibit of her products in the Ferry Building in San Francisco.

Penryn farmers have formed a local of the farmers union. Marion R. Struble is President and F. J. Gibson, Secretary.

The special demonstration train supplied by the Southern Pacific and the University of California lecturers, will tour the Sacramento Valley next week.

The Senate Irrigation Committee made thorough inspection of the Orland Irrigation Project and spoke highly of it, but thought the expense of establishment would be very great.

A petition was presented to the board of supervisors of Sutter county for the formation of a new reclamation district comprising lands of the Rideout Ranch and the Central Ranch.

The Gridley creamery is encouraging farmers in the owning of higher grade cows by buying extra fine stock and introducing and selling to the patrons of the creamery on advantageous terms.

A body of about 60,000 acres of land in southeastern Modoc county is suggested as a fine place for installation of an irrigation system and Salt Lake capitalists are contemplating the project.

While it is found a very expensive proposition to maintain the reclamation districts in Yolo county, the richness of that soil amply compensates and wonderful crops are the result of the combination of water and soil.

Fruit growers of Paradise, Butte county, have organized the Paradise Fruitgrowers Union. The union will be incorporated and be in a position next season to handle the fruit of its members. The directors for the first term are H. J. Bohannon, E. A. Hoag, C. A. Buckley, W. H. Ostrander and Mrs. F. W. Day, and Mr. Bohannon and Mr. Hoag, president and vice-president, respectively.

## Central California

Farmers Institute will be held at Madera November 23rd.

Turlock people now feel that they have assurance of a cannery.

Fresno county received the grand prize on its exhibit at the A-Y-P.

Raisins are still looking up and two and three quarters cents is expected.

One apiarist at Exeter shipped a carload of extracted honey to Chicago last week.

President Giffen reports that one season's tonnage of raisins has been sold since July.

Hindu orange pickers are flocking to Porterville and it is said have cut the price of picking.

It is reported that Tulare county will uproot 360 acres of peach trees and plant eucalyptus.

Dinuba raisin growers have quite extensively signed up with the new Central California Raisin Co.

Citrus growers in Kern county are alarmed at the discovery of red scale at Bakersfield, Kern and Delano.

One well near Delano, Kern county, has proved itself capable of producing eighty inches of water under pumping.

Peach orchards over the San Joáquin Valley are being sprayed with Bordeaux mixture to prevent attack of peach blight.

The valley was given its heaviest rainstorm of the season last week. It amounted to practically one inch in many sections.

Chas. S. Barrett, National President of the Farmers Co-operative and Educational Union attended the meeting of the state union in Fresno last week.

The Kingsburg Record reports that some fruit growers of that section who have consigned their fruit to the farmers union have received "red ink."

The tobacco farm located at Exeter, which it at one time appeared would be transferred to other sections, will continue to be the center of experiments in tobacco culture.

George C. Roeding's exhibit of choice olives made at the Seattle Exposition has been secured by the Union Pacific Railroad and will be used for advertising Fresno county in Eastern cities.

The citrus growers of Tulare county have formed a citrus protective league and the good work which has been maintained in that county will be still more strenuously followed out and the county kept free from pests.

Some apple growers at Watsonville have found that the New York agent's charge, together with custom house clearance, bills of lading, marine insurance, etc., are somewhat discouraging factors in sending fruit to London.

The chamber of commerce of Fresno has inaugurated a movement to procure the formation of a drainage district which will follow the lines laid down by government experts who have investigated the situation in Fresno county.

## Southern California

One farmer near Holtville Imperial county, has 1600 turkeys in one bunch.

The shortage of walnuts in the Southern California district will be about twenty-five per cent.

Every warehouse in Ventura county is full and groaning under the load of lima beans stored.

Orange county reaped a harvest in vegetables last year to the extent of about three million dollars.

It is rumored that the planting of cotton in the Imperial Valley next season will be very extensive.

Whittier cabbages are growing finely and it is thought the quality will be as fine as any ever grown.

A company with a capital of $100,000 has been formed to establish a denatured alcohol plant in the Imperial Valley.

The work of making the Santa Ana River more safe to agriculture is continued by cleaning the bed and building levees.

Orange county beet growers have contracted with the sugar factory for about 1,000 acres of beets to be grown next year.

An Orange county walnut grower makes the claim that walnut blight is not a bacterial disease but simply a climatic condition.

Improvements have been made in the olive works at Elsinore, San Diego county, and some pickling of the new crop has been done.

Oroville, Butte county, is now shipping heavily of early navels. The belief is expressed that this will be a banner year for the citrus section.

The Heber Fancy Melon Growers' Association has brought action against its secretary to turn over records and funds belonging to the association.

The record car of walnuts sold this season is said to be one of the Fullerton-Placentia Association, which contained about 600 sacks and brought $7,500.

The Riverside Press devotes a full page to illustrations of White Leghorn hens of Riverside. There are some exceptionally fine poultry ranches in that section.

Los Angeles olive buyers have offered Valley Center, San Diego county olive growers twenty dollars a ton in the orchards for oil olives and forty dollars for pickling.

The Imperial county farmers union has received its articles of incorporation, the president of the new organization being H. W. Morehouse and John McKinney is secretary.

The Santa Ana, Orange county, sugar factory closes its season's run this week. It has sliced about 45,000 tons and made about 6,000 tons of sugar. The beets averaged about nineteen per cent.

The manager of the Placentia Orange Growers Association has issued a circular to members showing the necessity of the groves being picked by the regular picking gangs of the association, and fruit hauled to the packing house on wagons supplied with springs.

## The Coast

The Yuma Irrigation project has cost the government $3,343,000.

A large number of cars of apples have been placed in cold storage at Seattle.

Big exhibits of Hood River apples are being made at the National Apple Show.

Today is being observed as Country Life Day at the National Apple Show at Spokane.

Yakima Valley potatoes are now quoted at Tacoma at fifteen and sixteen dollars a ton.

Farmers of Washington are greatly interested in the eradication of smut from wheat.

Yuma gave an enthusiastic reception to the Senate Committee which visited that place last Saturday.

At the territorial fair held at Phoenix last week, the noted pacer Dan Patch was driven against time.

Hood River apple growers made an exhibit of a carload of apples at the Irrigated Lands Exposition in Chicago.

The state college farm located at Pullman, Washington, is conducting a series of experiments with stock food.

The Hawaiian Experiment Station is investigating as to the worth of rubber trees as a commercial factor of that section..

Long Valley in the northeastern corner of Nevada is being populated as result of an extensive irrigation system just established.

Land at Midland, Southern Oregon, has just been cleared of sagebrush, which with irrigation, produced 100 bushels of oats per acre.

Over a thousand boxes of apples have been condemned by the horticultural inspector at Seattle because of being wormy or scaly.

White farmers lease from the Indians of the Nez Perce Reservation in Idaho lands for which they pay the Indians over $100,000 per year.

Experts in Washington claim that the state can be made to produce at least ten million bushels more wheat by the application of dry farming methods.

Apache Indians on the McDowell Reservation in Arizona delivered 1200 pounds of fine turkeys at Phoenix last week. They received seventeen cents a pound.

The Hawaiian Islands are finding that true success will come to the agriculture of that section only when greater development is made along irrigation lines.

The state officers of the executive committee of the Farmers Union of Washington held a secret session at Pullman last week and elected L. C. Crow, president, Palouse; A. D. Cross, secretary-treasurer, St. Andrews; J. Q. Adams, vice-president, Waterville, and Robert Brumblay, chaplain, Pullman. Members of the executive committee are: P. W. Cox, Colfax; Y. C. Mansfield, Endicott; H. H. McLean, Walla Walla; W. D. Davis, Lind, and E. Nelson, Nez Perce, Idaho.

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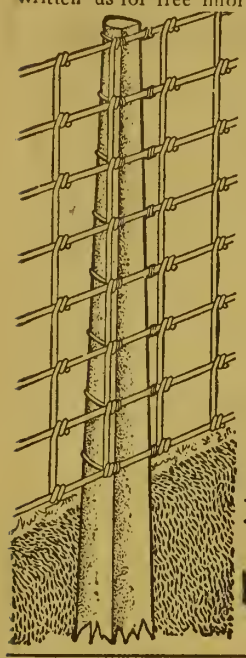

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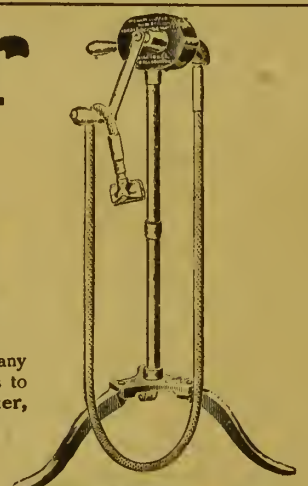

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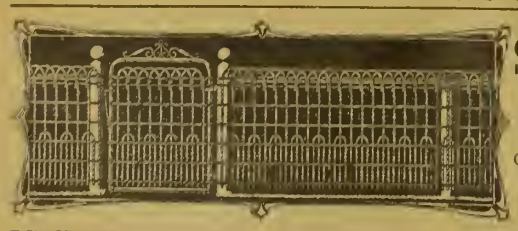

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# Live Stock and Dairy

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## THE PEST OF BERMUDA.

By Mrs. M. E. Sherman.

THE Imperial Valley is thoroughly awake to the fact that Bermuda is a serious pest, and the people are holding meetings to devise ways of control.

One district has none of the grass while one company plans sowing it for stock feed. This is the occasion of the following resolutions and Mrs. Sherman's article.

* * *

Whereas: It has been called to the notice of the Horticultural Commission that valley lands are being seeded to Bermuda grass;

And Whereas; Bermuda grass is looked upon by a large majority of farmers as the worst pest in the valley today;

Resolved; That the partles sowing Bermuda grass seed be asked to suspend seeding pending further investigation looking toward the classification of Bermuda as a noxious weed.

I have noticed with interest the above resolutions passed by the Horticultural Board of Imperial county, condemning Bermuda grass. I hope they will be able to keep this grass out of these new districts not yet infected. It is a pest in the vineyard and orchards where it grows too fast for the lazy man's comfort. It has been planted on some lands in the San Joaquin Valley that were worthless from the rising of alkali owing to lack of drainage. Bermuda is taking a deadly hold on California wherever the land is rich and moist. The best land is to its liking. Everywhere in the winter time its brownish yellow tinge is seen marring the green velvet of the lawns. I notice each year the increase is very marked in the lawns of the parks and private houses.

Bermuda is a summer or warm weather grass. Cool weather checks its growth. Wherever there are frosts it may be controlled by turning the sods up on edge to the weather and after the action has been enough to kill most of it, raking it out and burning it up. I fancy, however, much we may try to control Bermuda it is like poor relations, it has come to stay in the cultivated lands, I have tried to spray it with various sprays, arsenic, lime and sulphur, blue stone and sulphate of iron, but it does not mind them greatly. The tops are deadened for the time, but it soon comes on with the persistence of bad habits, and it stays at it all the time. Crude oil alone has held it down on the ditch banks. I think the ditch company by using crude oil could keep it from spreading over the cultivated lands.

In the cultivated field the spots of Bermuda are run over with a sharp plow and cut into narrow furrows not more than two or three inches wide. Then the land is crossed with the disks. Then a long toothed harrow follows. The harrow is really used as a rake and as soon as the teeth are full, it is turned over and cleaned, the pile being made carefully and as soon as possible burned. The harrow and disks are run as long as any grass can be raked up. Then the ground is plowed, harrowed and a stiff seeding of grain put on it. After the grain is harvested, it is again looked over carefully and if any spots are found, the disking and harrowing is repeated until all traces are gone. The land is planted elther to vegetables or to corn crop the next summer and the Bermuda is watched for in the fall and treated if it appears.

This treatment is successful if the men are faithful to their duties. The owner, however, had better be on deck most of the time to see that they have not neglected the cleaning and burning of all the caked up grass.

Bermuda is a wonderful feed after all. The old lady sald that even the devil himself could be credited with the fact that he was not lazy. So it is with Bermuda. As soon as the summer sun comes warm and bright the bermuda grass is up and growing. The horses and young cattle keep fat on it. Three to four head to the acre are required to keep ahead of it on moist rich land. I have had 31 head of stock on a field of 17 acres for the past six weeks and today the wise man of the ranch tells me I should put all the colts out there as that bermuda is a foot long in places and the frost will take it before the stock get it eaten up clean. As a butter or milk feed Bermuda makes a poor showing compared to alfalfa. It will crowd out any alfalfa field if the land is at all moist. I would say to the friends in Imperial Valley, "Fight it and keep it out if possible." Ten feet of Bermuda grass scattered in a field will cover a hundred acres in five years with dense sod if not given regular and systematic care in its suppression.

### Johnson Grass.

This ls another pest against which the law has never been enforced. All along the ditches it is seeding the lands until many vineyardists prefer to sink wells and pump the water required for irrigation, rather than risk the seeding of the land to Johnson grass. It is easier to handle than Bermuda, however. It needs to be suppressed constantly by keeping the weed knives keen on the edges and cutting it off below the surface of the earth every two weeks during one whole summer. This will end its life almost without fail in one year's time. The test of thoroughness in the work is interesting to note. The Swedes and Germans on the ranches do kill out Johnson in one season—while the Americans usually put in two or even three at it. Patient and untiring well doing are needed on the farm as much as in any other walk of life.—M. E. Sherman.

---

Petitions are being presented to the state engineer by owners of ranches along the Russian River, asking that steps be taken to survey the river to the end that dredging may do away with injury to lands during time of flood.

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### WEAR OF HORSE SHOES.

Probably there is not a fault of the horse—for fault it is—so common as the irregularity in the wearing of his shoes. It may be taken for granted that not 10 per cent. of horses wear their shoes exactly level. Under these circumstances, therefore, the average horse is bound to have swollen or puffed ankles. Any one can see that wearing a shoe in this manner forces an extra strain on the lower ligaments and ankle joints—yes, and other joints as well. This strain is bound to show its effects in the puffed ankle. Again, inequality of wear in the shoe is apt to, and often does, cause corn, quarter cracks, knuckling and such ailments. The reason for the first two troubles is that the extra strain thrown on the inner part of the hoof is too much for it to stand, and as a result of this unequal bearing and pressure the trouble is made to appear. In knuckling the trouble is forced by a weakness which is aggravated by the high inside heel and low outside, a complete and distinct inequality.

In the shoe for a draught horse, with which the trouble is most generally seen, much can be done towards remedying the evil mentioned. The toe calk is placed to protrude fully one-half inch to the outside of the shoe, and a strong side web at the heel with a stout calk attached serves as a lever against an outside roll and forces the foot to take a position on the ground more even than otherwise.

In placing this calk on the toe it should be remembered that only to a small extent should the inside part of the shoe have any of its bracing, the aim being to cause a different center line over which the toe shall break than formerly.

It is practically to the toe part that attention must be given, for it is there where the major part of the trouble is. The foot is placed on the ground, the first part to touch being the outside toe and the last to leave is the same. So we must, in order to find a new breaking-over line, make it troublesome for the horse to carry his foot in such a manner, and by placing all the wearing surface to the outside, naturally compel the foot to bear harder to the inside. It must also be borne in mind that the complete remedy for this evil is not found in one or two shoeings, but it must be kept up until the muscles, which have been allowed such freedom in causing the foot to work on an unequal line, are settled somewhat, and other muscles are set to work to perform duties which they have been, to a certain extent, free from; for it is through an unequal distribution of muscular activity that such irregularities occur.

As to the wear of horseshoes, I would remark that a horse will go in its natural way. The best way of finding out how to shoe a horse is to let him go barefoot until he has worn his feet into their natural shape—probably quite a different one to that which the average blacksmith tries to produce—then put a shoe on that fits the foot—W. R. Gilbert in the Horse Review.

### EFFECT OF MACHINE MILKING ON INDIVIDUAL COWS.

Owing to the rapid growth of the dairy industry in recent years and the increasing difficulty of securing competent help, much interest has been aroused in the possibility of securing greater economy in time and labor by the use of mechanical milkers. Several of the experiment stations, as well as the Dairy Division of this Department, have made experiments and published reports dealing with various phases of this subject.

At the Nebraska Station, A. L. Haecker and E. M. Little have been carrying on experiments for several years with a view to ascertaining definitely some of the practical limitations of the milking machine and the conditions under which it may be most successfully used. These experiments have dealt more particularly with the effect of the use of the milking machine upon the production of cows throughout the lactation period and the behavior of individual animals with reference to machine milking.

In the experiments 53 different cows have been milked by machinery. Of these cows some have been milked continually with the mechanical milkers from the time they were first tried, while others have been subjected to this method for only a short time. As a result, twenty practically complete lactation records have been obtained, together with numerous records covering shorter periods of time.

Judging Dairy Cows at Davis State Farm.

In 1908 an experiment with 10 heifers was begun which will cover a series of years. These animals have never been milked by hand, so their performance, as far as milking is concerned, will be entirely controlled by the milkers. So far, two lactation records by heifers have been obtained by machine milking which compare favorably with other 2-year-old records made in the University dairy. Heifers in their first lactation seem to give down their milk quite freely when milked by machine and are less inclined to hold up milk than are cows which have been accustomed to hand milking for several years before machine milking is begun.

In general it was found that the effect of the machine varied with the individual cows, and that some cows are not adapted to machine milking. Heifers in their first lactation apparently gave better results by machine milking than did aged cows that had been accustomed to hand milking for one or more years.

With animals adapted to the purpose, the use of the milking machine appears, according to the Nebraska Station experiments, to be of very decided advantage, but if there are several animals in the herd which can not be milked in this way to advantage the herd totals may be so lowered, and the resultant losses become so great, that they would not be compensated for by the saving of time and labor in the use of the machine.

The successful application of machine milking can not therefore be assured "until all the members of the herd are known to be adapted to this method of milking."—Experiment Station Record.

### PUREBRED HOLSTEIN DEFINED.

In some sections of Minnesota, and doubtless in other states, there are herds of Holstein-Friesians that have not been kept registered. The writer knows of several large herds from imported stock, owned by Hollanders, settling in Minnesota at an early date, who have not registered their animals, although they have been kept pure and breeding records made. Many herds owned by state institutions have not been kept registered. On August 4, 1909, at a meeting of the Board of Heads of State Institutions, it was decided to put their cows on record.

For this reason, there will be many who will wish to know just which animals are considered purebred and eligible to registration.

### MILCH GOATS.

C. A. Loud of San Diego is stocking up with some high-grade milch goats. Several weeks ago he purchased Rimu, a beautiful Red Alpine doe bred to Fable, a son of Prince Bismark, the noted Toggenburg. The purchase was made from the herd of Miss B. A. R. Stocker of Arroyo Grande and stock was so satisfactory that he returned to secure from the same owner the buck Jubel, also a son of Prince Bismark, the latter being nine-sixteenths Toggenburg and seven-sixteenths Saanen, the two highest grades of milch goats.

### THE FLY NUISANCE.

'O Lord! how foolishly helpless we are," ought to be the daily prayer or rather confession of thousands of farmers who allow their cows to be fairly eaten alive with horn flies and other flies, and never make an effort to help the poor animals. Since the advent of the small Texas, or horn fly, this trouble and loss has increased many fold. It takes only about ten or fifteen minutes for a man to spray a herd of 25 cows each morning and then the animals are comfortable all the day long. This applies to young calves very distinctly. The cost is trifling compared to the losses in milk that the torment causes. Why should so many of us be so helpless?—Hoard's Dairyman.

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# SIMPLE

The only piece inside Sharples Dairy Tubular bowls.

Manufacturers of common cream separators put 40 to 60 disks, or even worse contrivances, into an old-style bowl and call it simple and modern. The 52 disks shown on the sticks below are all from one such bowl. These contraptions must all be washed twice daily.

But Sharples Dairy Tubular bowls have nothing inside except the tiny, instantly removable piece shown above on the thumb. And Tubulars are out-skim, out-last and out-class all other separators. That is because Tubulars are different—are the only simple, sanitary, modern separators made—are the World's Best.

52 Disks from one Common Bowl.

World's biggest separator factory. Branch factories in Canada and Germany. Oldest separator concern in America. Sales exceed most, if not all, others combined. Tubulars probably replace more common separators each year than any maker of such machines sells.

Sharples 29 Yrs

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THE SHARPLES SEPARATOR CO.
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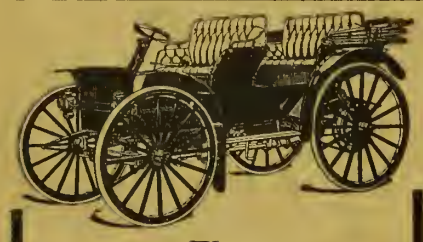

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## HOW TO FREE CATTLE AND PASTURES OF TICKS.

THERE are four practical methods that may be employed in freeing cattle and pastures of Texas fever ticks: (1) picking or brushing off the ticks; (2) smearing or spraying the animals with a disinfecting solution; (3) dipping the "ticky" animals in a vat containing a solution capable of killing the ticks without injury to the cattle; (4) a systematic pasture rotation whereby the ticks are eliminated by changing tbe cattle to one pasture from another, allowing the ticks to drop off, and preventing new ticks from getting on the cattle.

In sections where there are large herds and ranches, dipping or spraying on a large scale has been successfully carried out, either alone or in conjunction with pasture rotation, while in other sections, where the cattle on farms consist of only a few head, hand dressing with oil has been found to be the most practical plan. The methods above suggested, therefore, apply to different sections of the country, and the stockman or farmer should select the one which is best suited to his particular case.

### Picking or Brushing Off the Ticks.

Where the herd is small the ticks may be picked off by hand or scraped off with a dull knife or currycomb. This should be done at least three times a week in order to remove all tbe large ticks before they mature and fall off, as by this system the smaller ticks which at first escape detection will be found before they are fully developed. After removal the ticks should be destroyed, preferably by burning. Care should be taken to go over the animals thoroughly, and after once going over they should not be neglected, as ticks may be picked up from time to time. If this work is thoroughly done and no ticks allowed to fall off and lay eggs from June 1 to the end of November, the cattle will be free from ticks and the pastures clean.

### Smearing or Spraying.

Greasing the animals all over thoroughly with cotton-seed oil, fish oil, or Beaumont crude petroleum will assist in preventing the ticks from getting upon them and destroy the ticks already on them. This method is practicable when only a few animals are to be treated. A mixture of 1 gallon of kerosene, 1 gallon of cotton-seed oil, and 1 pound of sulphur has proved effective when used two or three times a week during the tick season. It should be applied with a sponge, syringe, brush, mop, or broom.

Where a larger number of cattle are to be treated, but not enough to warrant building a vat, spraying has given good results. The necessary equipment consists of a force pump such as is used by orchardists for spraying trees, with a barrel in a wagon or on a platform and a hose with an ordinary nozzle. A 20 per cent. emulsion of Beaumont oil or a 5 per cent. solution of any of the standard coal-tar dips may be used. The sprayings should be continued throughout the whole season and if thoroughly done will leave the cattle and pastures free for the following year.

**Do your cows milk hard? Send 50 cents for teat expander. O., J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

### Dipping in a Vat.

Where a large number of animals are to be treated, dipping in a vat is a convenient and effective method. Beaumont crude petroleum is considered the most satisfactory dip and may be used either alone or in a 20 per cent. emulsion. Animals that have been dipped in the oil, especially during warm weather, should not be driven any great distance immediately afterwards, and should be provided with shade and an abundance of water.

### Pasture Rotation.

This system of eradication appeals to many farmers and should be followed wbenever practicable or conditions will permit. It consists in placing ticky animals in a small pasture for a period of 20 days. During that time a considerable number of ticks will drop off. Then transfer the cattle to a second small pasture for another 20 days, and if all of the ticks have not dropped off, to still another pasture. If the full time bas been used, 60 days will have been consumed and the stock is then ready to be placed on tick-free pasture. The object of moving the cattle from pasture to pasture at intervals of 20 days is to cause all the ticks to drop off and at the same time to prevent the animals from becoming infested again with young, or seed, ticks. Twenty days is less than the shortest time within which seed ticks will appear from eggs laid by ticks that drop off, and all of the ticks present on the animals will have dropped off in the 60 days. The young ticks, when hatched, will starve if no cattle are present in the pasture for tbem to get on.—From Circular of B. A. I.

## POTATOES AS STOCK FOOD.

Potatoes owe their food value principally to their high proportion of carbohydrates, which are found in potatoes in the form of starch.

They contain nearly three times tbe quantity of carbohydrates found in an equal weight of turnips.

Potatoes vary a good deal in composition not only as regards different varieties, but as regards the same variety grown in different soils.

Potatoes grown on strong soil contain more albuminoids than those from light land.

When they are of this composition they are firm when cooked and are said to "have a bone in them." These are the most nutritious class of potatoes.

Potatoes are more suitable for feeding pigs than for any other kind of stock.

Their high proportion of starch makes it necessary to mix them with food of a more albuminoid and fibrous character when given to cattle and horses.

Unless they are mixed with such food they are liable to produce colic; but when fed in proper mixture there is no more fattening food grown on the farm than potatoes.

When the potatoes are withdrawn, the cattle lose in condition at once and take some time to make it up again.

When potatoes are diseased, it is the albuminoids that decay. The starch remains unchanged, and if the decay has not gone too far, potatoes that are diseased may be used for stock feeding, but such potatoes should never be fed raw.

If a large number of potatoes are found to be touched with disease at lifting time they may be cooked, and if salted and packed firmly in barrels they will keep for some time if the air is excluded.

The flesh-producing quality of potatoes is destroyed in proportion as the disease has destroyed the albuminoids, but the carbohydrates are fully capable of performing their work of keeping up the animal heat and adding to the fat.—Farm World.

Several counties north of San Francisco Bay have united in fitting up a travelling car of exhibits showing in the East the productions of tbose counties.


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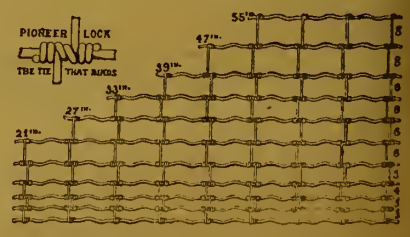


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# Profit in the Poultry Yard

We solicit short articles of a practical nature from the farmer and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

## STARTING IN THE CHICKEN BUSINESS.

By Bee Josephine O'Mealey.

WHEN one has read all the catalogues and syndicate stuff the feather part of the brain can hold, and fully decides to embark in the chicken business, there are several ways to begin. One man I knew borrowed a broody hen and a setting of eggs from a neighbor, and the neighbor was parsimonious enough to insist on him returning the hen after her summer's work was done, and found fault because the hen was so poor she could hardly carry her feathers. As if one cared to feed a hen for somebody else! So, as fault-finding is an all too prevalent practice, I should not advise the beginner to borrow his start.

Rural debating societies for generations have argued, "Which came first, the chicken or the egg?" Not being versed in ancient history I shall not offer an opinion on that subject, but simply suggest that it would be better for the eggs to come first, or rather about three days after a good incubator, three days being long enough to get acquainted with the workings of the machine before putting in the eggs.

### Incubators.

Some one asks: "What is a good make of incubator?" Most of them are, though some are better than others. I owned one well advertised machine which never hatched a chicken or duck out of perhaps a thousand eggs entrusted to it, and cared for assiduously, and another even more glowingly advertised never brought out over 25 per cent of the fertile eggs. It is not in my province to recommend any particular make of machine, but the best one I ever saw was made here in our own state. Bear in mind, however, that no machine ever was or ever will be made which will hatch infertile eggs. Most incubators, if intelligently cared for, will hatch a good percentage of the eggs with good strong germs. And an incubator is much more satisfactory than a hen, for it has no idiosyncrasies, never changes its mind, never kicks eggs to pieces, never tramples the chicks—and has no bugs.

I should not advise a beginner to purchase larger than 120-egg machine and a 50 or 60 egg is better. Fifty chicks is the utmost limit of one brood for an inexperienced person to handle, and after one has acquired experience the wisdom of small flocks is fully apparent. Two or three small machines will cost little if any more than one large one, and be infinitely better. Some poultry raisers have two sizes of incubators, say 50 and 100 egg, and set both at once, then on testing out the infertile eggs there will usually be about enough to fill the larger machine to full capacity. Bear in mind that the manufacturer knows the powers and capabilities of his machine, and that he never neglects to claim for it all that it will do, so do not put 120 eggs in a 100 egg machine by the expedient of standing them on end as did a woman of my acquaintance. At the end of three weeks she had some experience, but no chicks.

Do not fail to test out the eggs as soon as you can safely do so, which will be in five to ten days, varying with the kind of eggs and the experience of the operator. The infertile eggs make fine food for chicks, and may be saved until the hatch comes off; for understand, an infertile egg never becomes fit to enter politics, it dries up, but never rots.

Indeed many people would rather buy them for cooking purposes than storage eggs, and I have sold many a dozen at a reduced price; the purchaser understanding clearly just what the eggs really were.

The incubator must stand solidly on a firm floor, and out of draft, the lamp must be cleaned and filled and trimmed regularly, and while the manufacturers of today have the regulator system down almost to perfection, a watchful eye on the thermometer is no drawback. I usually turn the lamp up a trifle in the small hours of the late night, for then the temperature usually falls a little.

Do not neglect to cool and air the eggs and do not omit the turning. A hen—and after all I suppose she does understand incubation best, though it seems that when she has laid the eggs her duty is done—turns and shifts her eggs many, many times in twenty-four hours until they are polished with the friction.

At least a week before the eggs are due to hatch—and this takes three weeks—get your brooder ready. It can wait for its occupants better than they can wait for it. A good brooder, and there are many on the market, costs but little, and is as necessary as an incubator. Chickens have been reared in boxes with jugs or cans of hot water to supply heat, and so have they been hatched in improvised incubators, but it is expensive economy.

The chicks sometimes begin to hatch as early as the seventeenth day and I prefer to see them all out by the end of the twentieth day; some will perhaps be later, but as a rule those slow to hatch are wanting in vigor. Contrary to the rules laid down by the manufacturers I prefer to remove the chicks to the brooder as fast as they dry off, and also take out the empty shells. An unusually lusty chap frequently inflicts not only annoyance, but serious injury on those struggling for exit from their prisons, and sometimes a half shell will wedge over another egg in such manner as to do harm.

### Care in Brooders.

The floor of the brooder should be covered an inch deep with some soft material which may be eaten without injury, such as bran, chaff or shatterings from hay. The book of directions will tell you the brooder should be 90 degrees to 95 degrees, but a thermometer in a brooder is a superfluity. As the old colored mammy told the young mother regarding the baby's bath: "Don't need none o' them fool mometer tings. Jas' poke the bressed lamb in, an' if its too hot


# Petaluma Incubators and Brooders

***Awarded GRAND PRIZE at Alaska-Yukon-Pacific Exposition, Seattle, Wash.; Two First Prizes and Silver Medal at the late California State Fair***

***Petaluma Poultrymen*** in accordance with their aim of attaining the highest degree of efficiency have steadily selected ***Petaluma Incubators*** and ***Brooders***—the Standard of the World.

We have equipped all the big poultry plants and have several contracts to complete before January 1st, 1910.

One firm of poultrymen has 47 504-egg Petaluma Incubators giving a capacity of 24,000 eggs at one time.

We also have contracts to equip a number of plants with from 10 to 20 504-egg ***Petaluma Incubators,*** besides dozens of poultry ranches with smaller numbers of machines.

***Winners of More Prizes Awarded by World's Fair Judges Than Any Other Make***

We have stated before and we ***again*** state that more Petaluma Incubators and Brooders are used than all other makes combined in Petaluma and all that great section of the country west of the Rocky Mountains, which is more than one-third of the entire United States, and the Petaluma is fast reaching a similar position among Eastern poultrymen. As rapidly as its merits become known does it supplant all other kinds.

## Midland Poultry Feed

Is the best ground mixed feed and hundreds of the successful chicken raisers use no other. Ask for it and take no other.

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***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90, 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

## West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

# STANDARD EGG FOOD

The kind that makes hens lay when other foods fail.

**90 Lb. Sack $2.35**

**Acme Roup Cure is Guaranteed. 50c Postpaid.**

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Eggs for hatching September 1st '09. Write for circular.

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Coulson's POULTRY FOODS

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Do you want your hens to start laying quickly after the molt.

A scientifically prepared food like

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will do it.

Remember that all egg foods are by no means alike, and it is advisable for you to buy a brand that has stood the test of time.

COULSON'S EGG FOOD is therefore what you want to give RESULTS and keep your flock in healthy condition.

For sale by dealers everywhere. Write for our free book "Poultry Feeding for Profit" with samples of our poultry foods.

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**High Protein Meat Scrap**

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Not tanned nor embalmed and thoroughly digestible.

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Obtain it from your dealer, or order direct.

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***Toulouse Embden***

Prize winning stock never beaten at any poultry show.

***$1.50 Per Setting***

Fine Toulouse Ganders for sale at $4.00 each.

Send your order at once for the best stock in the west.

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**"Chicks Well Hatched are Half Raised"**

**CHICKS**

White and Brown Leghorns especially.

Other breeds of which we can secure good hatchable eggs in our immediate vicinity.

***We begin hatching about December 15th and can book orders for a limited number of day-old chicks for delivery during hatching season.***

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Lima bean growers are now receiving $3.85.

he'll turn red and if its too cole he'll turn blue." If the brooder is too hot the chicks stretch their necks and gasp, emitting a sharp sound, if too cold they huddle and trample each other to death, meanwhile giving vent to plantive wails of discomfort; whereas if just right, they scatter about comfortably and keep up a contented purring murmur and "sing themselves to sleep."

We once made a brooder to use in the house, and the top was composed of a glass door of an old refrigerator, thus affording a full view of all the inmates at any time one cared to look, and it was both pleasant and instructive to see how they expressed satisfaction in their attitudes.

The object in crowding together, is to obtain the coveted warmth, and if the crowding is continued the result is dead chicks, for the weaker will fall an be trampled to death. Temperature is more a vital question than food in the early stages of growth. A chick might far better get most uncomfortably hungry or most unreasonably over-fed than either too cold or too warm.

Either extreme of temperature is almost invariably followed by diarrhoea, that most fatal of all infantile complaints, human or otherwise. A chilled chick will "bake," that is through the weakness of the general system, the rectal muscles are not able to throw off the excretia in the proper manner, free of the body, a small portion remains on the skin just below the vent, and this is added to by each excretion until sometimes the accumulated mass of filth may be almost half as large as the chick itself. In this case the chick may be thoroughly greased, to soften the mass sufficiently to be removed, or it may be soaked off with warm water and the chick kept warm until it dries and is comfortable thereafter. This is a tiresome and unpleasant job, and the better way is to avoid it before it happens, as the effects of even a slight check in the growth and well-being of a chick are difficult to entirely eradicate and it is easier and more profitable to care for ten healthy, hearty chicks than two sickly stunted ones.

Vermin.

Of course if you have used an incubator for hatching purposes you need not look out for vermin for a few days, but if you have hatched with a hen the fight against this opposing army should begin at least three weeks before the eggs begin to hatch. Use grease sparingly on a setting hen, rather use some of the many good louse powders, or make one of equal parts of air-slacked lime and sulphur with a little carbolic acid added. Do not use fresh lime on a living creature as it is caustic in the extreme. A man of my acquaintance dusted a setting hen with fresh lime and twenty-four hours afterward was obliged in common humanity to kill the poor raw creature to put her out of her agony. A woman whom I knew once drenched a lousy hen thoroughly with kerosene, and nature came to its relief, for death relieved its sufferings in a few hours. Tobacco stems make an excellent nest material, as does also air slacked lime.

The chicks should be looked over carefully every two or three days for vermin. I have never found anything better than lard and sulphur with the addition of a few drops of carbolic acid and a little kerosene. Proportions are not essential so long as the oil and acid are not in sufficient quantities to burn the tender skin. This ointment should be applied under each wing and leg, around the neck and around the vent. A lone downy chick whose feathers are just sprouting was presented to a member of my family the other day, and I observed "Socrates" to have dark patches under the little wings which at a distance resembled dried blood. On examination he was found to have dozens of little blood-thirsty ticks absorbing all the nourishment of which he robs the cats at each meal. One application of lard and sulphur cleaned them off. There is something waiting to prey on everything and you need not think to embark in poultry raising successfully unless you have the eternal patience to keep everlastingly on the watch for the numberless accidents which we are told will happen in the best regulated families.

## POULTRY QUERIES.

Diarrhoea.

I have a number of little chicks which have diarrhoea, make a queer noise for a few days and finally droop and die. Can you tell me what to do for them?—Mrs. R. S.

It is hard to tell what has caused the diarrhoea, unless one knows what feed has been used, or how the chicks were hatched. If incubator hatched, I should suspect either too great heat, or their being chilled, either of which will cause the symptoms you describe in this way.

The digestive organs seem very sensitive in chicks which have been either overheated or chilled during incubation, and the yolk, which is their first meal, and answers the same purpose as the "colostrum" in the case of a young calf, does not dissolve, but "cakes" and hardens in the chick's intestines, thus causing its early death. A post-mortem should be made, and if this hard substance is found in the digestive tract, you may be sure what caused the trouble. Again, the food may be too rich, and in that case, a post-mortem would disclose a liver very dark and large, sometimes with white specks, or yellow specks all over it. A dose of castor oil would be of benefit in either case, but in the first, the only sure cure, would be to open the intestine and remove the undigested yolk, and it would be a very delicate operation, I think. I have known of cases of diarrhoea being cured with catnip tea, and have used it successfully myself, making a strong tea of the stems and leaves, and mixing the mash with it, using mostly bran, and they would greedily eat every stem and leaf.—Mrs. M.

Ticks.

How destroy a small flea-like insect that has appeared in my flocks of chickens for the first time this year?. It's not the mite, as I know it after 25 years experience, but red and flea-like and sticks to the combs and wattles, eyebrows, etc., much like a tick.—J. H. R., Oleander.

I am much afraid that this correspondent is up against one of the worst pests we have, which is chick ticks, and that his only way to get rid of them is to spray his houses and yards with a solution of corrosive sublimate, of course first removing the birds to other runs for a time, as this is a deadly poison. The way to use it is to dilute eight ounces of the corrosive sublimate with twenty gallons of water, and spray thoroughly with this. Now, in spraying, remember that a fine, mist like spray,

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Send orders with remittance to

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115 No. Broadway,
Los Angeles, Cal.

will not do at all, for the pests, like bedbugs, crawl into the inmost cracks and crannies of the buildings, between boards and where the shingles lap, and a strong stream must be directed into all parts of the building until the whole is saturated, inside and out. No economy of material will do effective work here, and it must be repeated in a week, and again and again until sure the pest is eradicated entirely.

For the affected birds, use one teaspoon of carbolic acid to one pint of water and wash their heads thoroughly, removing every tick carefully.

One lady reported success in ridding her house and yards of this pest by painting inside and out with crude petroleum in which she had mixed crude carbolic acid in a 2 per cent solution, for the houses, and sprinkling the yards with the same, anointing the chicken's heads with carbolized vaseline, and this has the advantage of not being poisonous, so the chickens need not be moved.—Mrs. M.

### Painting and Fattening.

I expect to raise about 300 White Leghorns. I will plant alfalfa in their pens; will that be enough green food or should they have a variety? Should the cockerels that are sold when they weigh about two pounds be fed differently from the pullets? And if so, what for each?

I have my brooder house painted inside and out with crude petroleum mixed with Red Venetian. Is that sufficient or should it be sprayed with distillate or emulsion as a mite preventive? I am going to build a hen house for the hens to roost in and lay in. Would you paint it with petroleum or spray it once a month? Would it be all right to paint it on the outside and spray it inside? How many cockerels should be kept together to fatten for market, and how much room should they have to exercise in?—R. B., Hanford.

The alfalfa, if fresh and tender, will be all right, but they will greatly relish fresh lettuce leaves, and other greens as a change. Feed cockerels and pullets the same up to the age for fattening. Painting outside is sufficient, as the monthly spraying must be done anyway. To fatten for market, small pens eighteen inches square are sometimes used by broiler plants, with slatted floors, placed in rows in a long building, high enough up so one need not stoop in feeding and watering. Six cockerels are fattened in each of these coops, the food being placed in troughs in front of the coops, and the place kept in semi-darkness only at feeding time. Ten days is all their livers will usually stand of this treatment, and if milk fed, they will fatten very nicely in this time.—Mrs. M.

### TELLING THE AGE OF FOWLS.

As a rule, people judge the age of a fowl by its spurs, but the length of spur is no positive criterion to go by. We have some cockerels that show more spur than do some of our cock birds. But, generally speaking, the size of spur will help out a doubt.

An Australian authority says that a pullet will show rose-colored veins on the surface of the skin, under the wings. There will also be long silky hairs growing there. After a year old those hairs disappear, as also do the veins, and the skin grows white and veinless. The difference can be seen at a glance.

Again, a pullet that has not laid, or has just commenced laying, will have the bones of the pelvis or basin almost touching. The bones gradually widen as the fowl continues laying, and at two years old are much farther apart than at one year old.

The third point of difference lies in the claws and shanks. In a young bird the skin of the claw is supple, and the scales thin and brilliant. The skin gets coarser and stronger, and the scales harder as the bird grows, and the nail of the last toe, which does most of the work when the bird scratches, gets much worn.

There is also a difference in the eyelids. These acquire wrinkles as the bird gets older, and there is also a slightly shriveled look on the face. This, with age, becomes more and more pronounced.

English authorities hold that there is no certain test of age. But they admit and endorse the experience of the writer, that, in general, the spurs both of hens and cocks will distinguish a two-year-old bird, but there are exceptions in which really young birds develop old-looking spurs, while really second-year birds preserve the short, rounded spurs of a cockerel.

The texture of the legs is a guide to some extent, and so are the delicacy and freshness of the skin of the face and comb; but still an occasional hen will preserve her youthful appearance to a startling degree.

The skin of the body is a better test, becoming coarser and drier looking with age.

Formerly the wing feathers were considered an absolute test as between a pullet and a hen, even after the long practice of early breeding had made the moulting of early pullets quite common.

To a certain extent, the absence of pullet-quills still is regarded as evidence of greater age, but for some time these feathers also have been becoming more and more uncertain as to the actual fact, unnaturally early hatching having upset all the old rules.

It is more difficult to judge the age of water fowls than of other poultry, partly from the absence of spurs, partly from greater longevity, and partly because the water keeps their legs soft and fresh.

Ducks waddle more heavily as they grow older, and after two or three years they acquire a depression down the breast.

An abdominal pouch of great size indicates great age in geese.

Turkeys up to a year old are said to have black feet, which grow pink up to three years of age, when they gradually turn gray and dull.

Age in pigeons is often told by the color of the breast. In squabs the flesh looks whitish as seen through the skin, but becomes more and more purplish as the bird grows older.—Farm World.

### WORTH WHILE.

"So you've been sitting on a dozen eggs for three weeks and only hatched out one offspring?" commented the rooster.

"Yes," replied the hen proudly, "but it was worth the trouble. That chicken has three legs."—Detroit Free Press.

Don't forget to lay in a lot of leaves for the hens to scratch in.

Keep plenty of lime on the dropboards; it will keep them dry.

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**Fireless Brooder Now Ready**

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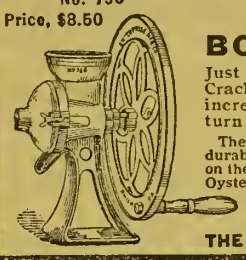

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Just the mill for farmers, poultrymen and all who keep poultry. Cracked grain, ground bone and shell is the proper food to feed to increase the egg production, and with one of these mills you can turn grain and waste materials into food for your poultry.

The **"ENTERPRISE"** Mill is thoroughly reliable. Runs easily, is strong, durable and doesn't get out of order. Look for the name **"ENTERPRISE"** on the machine you buy. Mill shown in cut weighs 60 lbs. Grinds DRY bones, Oyster, and other shells. Capacity 1½ bushels of corn per hour.

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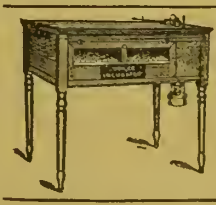

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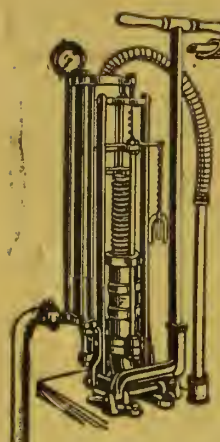

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The Bean patent spring (shown in the cut), divides the work; the operator does half at each stroke of the handle, and works against but half the pressure indicated on the gauge. Bean Magics are built in two sizes; both have non-clogging ball valves, porcelained cylinders, and other exclusive Bean features. They're the easiest running, least troublesome pumps on the market.

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Greatest Known Spray or Wash for Scale: San Jose, Black, Red, Purple and Brown. Also a sure thing for Red Spider, Canker Worm, Moss, Gum Disease, Silver Mites, Mealy Bug, Caterpillars, Lice, Codling Moth, and all Insects and Bugs that infest plant life; without injury to the plants, and with positive benefit to the soil, when applied.

This has long been the leading Spray or Wash in many sections of the country, wherever introduced. We have bought the formula and the rights for this section and are putting it out under our own brand. No article can bear the "West Coast" name unless it is the best of its kind. We guarantee Scalefoe to be just as represented. Send for circular with many testimonials.

Gallon can, 85 cents; 5 gallon can. $3.75. If not sold by your dealer will send gallon can for $1 or 5 gallon can for $4, freight prepaid by us within 200 miles. Write for price in barrels. Mix 20 parts water to 1 part Scalefoe, before using; makes it the cheapest as well as the best. Satisfaction or money back.

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# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Rhubarb Juice.

Is the juice of rhubarb saleable? If so, please give all the information you can about the matter.—H. A. H., Greenfield.

We do not know of the article having a regular market. It is said to make good wine and vinegar. There was at one time a factory in contemplation at Pomona for the manufacture of vinegar from the juice. We do not know whether it ever operated or not.

### Transplanting Roses.

What months of the year should rose roots be lifted ,and can the tops be left on?—Subscriber, Calabasas.

The plants can best be transplanted when dormant. If water was withheld from them late in the summer and they are perfectly dormant, they may be transplanted at once. In fact, we have seen them taken up almost every month in the year. Ordinarily the winter dormant season is preferred. It is possible to leave a large part of the top, but we think you will find better results to remove largely of the old wood.

### Cold Weather Walnuts.

What variety of English walnuts is best adapted to cold weather? What kind will bear freezing in winter, and what bears fruit earliest, and at what time?—Subscriber, Calabasas.

If by cold weather is meant the mid-winter season when all are dormant, any variety will stand the climate of any fruit growing section of California, but if late spring frosts are considered, that is, at time of blossoming, then the later bloomers should be planted. The Mayette or Franquette, we believe, are preferred for such situations in the north. But at Calabases the soft shells grown in the south should prove satisfactory especially the Eureka variety. There are also a number of new varieties now being introduced in the northern part of the state which are succeeding well. Any grafted variety will bear within a very few years after planting. The grafts placed on large trees will bear a crop the second year from grafting.

### Root Knot.

I have almond trees that were set two years ago last spring. Many have died from crown gall. What can I put in their place? Will either apples or oranges grow in the same ground? Will digging these trees up and mixing a half bushel of wood ashes in the soil around each hole destroy the germs of the trouble so that I can plant other similar trees next spring?—T. J. F., Fair Oaks.

Either apples or oranges will do well on the same ground, but the mixing of wood ashes in the soil of each hole would not destroy the germs of the disease, and trouble would result from planting the same kind of trees.

### Green Manure.

To what extent will green manure obviate the necessity of other fertilizing of orange groves? Will alfalfa for green manure keep alive through the summer on sandy soil at Redlands? Is barnyard manure a complete fertilizer? Is one coat of it once in three years sufficient?—Subscriber, Redlands.

Unless the grove is in excellent condition, we should not lessen the regular fertilizing of the orchard for a few years at least until it was put in excellent condition by the humus gained from the green manure. In time it is possible that the nitrogen fertilizer might be dropped and only potash and phosphoric acid added. Alfalfa might possibly keep alive if unirrigated through the summer, but we do not think it would give the same value to the grove that would be given by clean cultivation followed by vetch or peas for winter growth.

Barnyard manure can hardly be considered a complete fertilizer. It contains abundance of nitrogen which can be supplied by the green manure crop, but it is not especially valuable in potash and phosphoric acid. One application in three years will not suffice if it is desired to keep your grove in excellent condition.

### Johnson Grass.

We have on our ranch plants called here "evergreen millet." It is evergreen and grows the year round without water. When it seeds it is about three feet high. Stock eat it greedily. I wish to know if it is desirable as a forage plant for milch cows.—Subscriber, San Bernardino.

This query with sample of grass was sent to the experiment station of the state university at Berkeley and Prof. Wickson writes:

"This is Johnson grass which is counted one of the worst pests ever introduced into the state because it is so hard of eradication from good lands which are desired for other purposes and because it will not grow in waste, dry places where it might be of some advantage. It has some feeding value, but this is no offset for its undesirable characters. By California state law, it is unlawful to grow it near division fences or irrigation ditches."

As will be noted in Prof. Wickson's answer, the state law calls for the immediate destruction of this grass in certain locations, and our subscriber will do well to prevent its spread, for it will take much valuable land within the next few years.

### Asparagus.

What is the best variety of asparagus for market garden in this part of California?—C. M., Arroyo Grande.

Palmetto or Conover Colossal are considered the favorites.

### Oranges Blooming Out of Season.

Kindly inform me of the cause of orange trees that have already put out every growth of the season and are now putting out heavy new growth with many blossoms.—Subscriber, Redlands.

The only explanation we can offer for this condition is that while the trees may have been in fairly good condition, a shortage of water may have resulted in the late summer season, when a heavy irrigation would start a fall growth and fall bloom. The orange tree is sensitive to being deprived of its proper amount of water in the growing season, and when it is supplied, endeavors to make good by stronger growth and out of season blooming. There may be other conditions which have caused this, but without more particulars, this would be our guess.

### Self Milking Prevented.

In your issue of October 28 Mrs. Sherman gives several methods for curing self milking cows. I have a cow on which I have tried them all. The only one that was of any use was the one with a stick between her front legs fastened to a surcingle. This ordinarily prevented her getting in her work, but frequently she would get herself into such extraordinary positions that she would succeed in reaching her udder, even sitting up on her haunches like a dog and doubling over. A neighbor told me of a canvas sack fastened to a kind of harness, surcingle crupper and hip


**Auction**

On the W. Sandercook Ranch on Orange St., between Compton and Central Aves., one and one-half miles northwest of

**COMPTON**

Take electric cars on Long Beach line to Walton Station. Teams in wait, between 8:30 and 10 a. m.

**Tuesday, November 23rd, 10:00 A. M.**

**Rex Albert**—Handsome 4 year old, Chestnut Road Stallion, half brother to Rex Alto with record 2:07¾; also half brother to Rex Glord 2:14. Stands 15¾ hands high, weight 1200 lbs. Stylish, handsome and sound. He is a fine producer, colts show extra speed.

**Buster**—Heavy draft Shire and Norman Stallion, 3 years old this month; weight 1600 lbs., color seal brown, no white, height 16 hands. One of the finest young Stallions in California. Both of these Stallions are extra fine individuals. Pedigrees and terms furnished on day of sale.

1 4-year old bay mare, weight 1500 lbs., in foal, well broken; 1 4-year old bay mare, weight 1400 lbs., in foal, well broken; 1 9-year old bay mare, weight 1380 lbs., in foal, well broken; 1 10-year old sorrel Gelding, weight 1400 lbs., well broken; 1 2-year old bay Gelding, weight 1200 lbs., unbroken; 1 2-year old bay filly, weight 1200 lbs., unbroken; 1-3 year old bay filly, high class road mare, weight 1050 lbs. A perfect gentleman's driving mare, stylish and handsome; 1 2-year old bay Gelding, weight 875 lbs., stylish and with exceptional speed, as will be shown day of sale. Well broken; 1 2-year old bay Gelding, weight 900 lbs., very stylish and speedy. A beauty; 1 yearling Draft colt, weight 1000 lbs.; 1 6 months old mare draft colt, weight 680 lbs., color black; 1 6 months old horse draft colt, weight 630 lbs., color bay; 1 5 months old mare draft colt, weight 550 lbs., color sorrel.

This is one of the best and cleanest lot of horses and colts we have sold this season; also 3 head saddle horses and 3 head mules.

19 head first class dairy cows, Jerseys, Holsteins and Durhams, all young and in good condition. 10 head fresh day of sale, balance coming in soon, big milkers, all fine dairy and family cows. 1 14 months old Holstein Heifer. 1 fine Holstein bull.

**IMPLEMENTS.**

1 hickory farm wagon, Frazer cart with long and short shafts. Quicks deral road cart, McCormick's hay rake. Deering mower, 1 4-horse disc Helifer chisel tooth cultivator. Deering riding corn and bean cultivator. 14 inch sulky plow. Walking plow. 12-foot iron harrow. 8 ft. Smooch harrow. 8 ft. Cyclone adjustable knives, bean cutter. Corn lister, 2 sets work harness. 2 sets single harness. Set fancy carriage double harness, new. 4 thoroughbred male Collie pups, etc., etc. All above same as new.

20 tons baled barley hay, 10 tons bean straw.

TERMS: Horses sell for cash (except Stallions,) 6 months time will be given on cows on sums over $50.00 with approved security.

Free lunch at noon.

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will insure successful hatches every time. No. O Incubator, 100 egg capacity costs less than $12.50. Freight paid to your station.

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**Dept. D, Livermore, Cal.**

straps. I got one and put it on her and so far it has proved entirely satisfactory. In milking it is only necessary to loosen a snap on one side and drop the sack and the udder is always clean.—J. C. G., Modesto, Nov. 8.

### Birds Eating Peas.

In answer to query as to how to prevent birds from eating peas, we give another method that has been found effective.

Take baling wire or any other cheap wire and stretch along each row of peas on two foot stakes after they are driven into the ground. Cut strips of white paper one inch wide and three feet long and hang strips on the wires about every two feet. The wind will flutter the papers and frighten away the birds, rabbits and squirrels.—William Richard, Santa Cruz.

### Sorghum Eradicates Morning Glory.

In what issue did article appear regarding sorghum for killing out morning glory? Where can seed be obtained?—B. B., Blanco.

The article referred to was written by Mrs. Sherman and appeared in the Cultivator of October 21st on Page 402. The seed may be had of any seedsman advertising in the Cultivator.

### Eucalyptus From Cuttings.

Can I grow eucalyptus from cuttings. If so, what varieties —E. L., Carruthers.

A great many trees can be grown from cuttings which it is not practical to grow in that way. Plums and many other deciduous fruits and eucalyptus have been so grown. We do not know positively, but think almost all varieties of eucalypts may be. As to its being a practical method, we doubt it very much.

(Continued on Page 504.)

## MILCH GOATS.

In a September Cultivator an item relative to Swiss Milch Goats appeared in your columns that was misleading, I think. The item was:

"Five imported Swiss milch goats have recently arrived at the Wisconsin Experiment Station. These goats are of the breed known as Schwarzenburg-Guggesberger, a breed noted for its milk giving qualities. The object in making this importation is to experiment with the milch goat in this country, and compare their economy of milk production with that of cattle.

The inference would be that it is now possible to import milch goats from continental Europe. For several years the U. S. Government has had a strict quarantine placed on the importation of milch goats and but for the fortunate fact that a few small importations were made prior to this action on the part of the government, we would have in this country nothing as a nucleus from which to build up a herd of these wonderful breeds.

The five goats mentioned in my quotation are the property of Mr. Ernest Gonzenbach, vice-president of the Sheboygan Light & Power Co. and Mr. Gonzenbach, in a letter to Mr. Winthrop Howland, of Redlands, stated he had loaned his goats to the University of Wisconsin for experimental purposes. They are in charge of Prof. Geo. C. Humphrey of the Department of Animal Husbandry.

Mr. Ganzenbach is a native born Swiss and imported these goats of the Schwarzenburg-Guggesberger breed several years ago, thinking they would better endure the severe winters of Wisconsin than some other breeds. So far as I know, the only pure bred doe of this breed in California is now owned by Howland & Hurd of Redlands. It is doubtful however if any breed will ever equal results produced by the Toggenberg. —Q. A. Lobingier.

## INCUBATOR FACTORY BURNED.

The offices of the Petaluma Incubator Co., and a part of its storage rooms were burned on Nov. 4th. The factory remains in operation, and Mr. Gray, Manager of the company, writes that it is prepared to operate day and night so that orders may be filled at once. The cause of the fire is as yet unknown, but as the night watchman was found dead on the premises, and other suspicious circumstances were disclosed, the coroner's jury rendered a verdict of murder, and it is assumed that the factory was fired by incendiaries. The company carried a liberal insurance, but it is understood that it will fall several thousand dollars short of the actual loss. Regarding the combustibility of Petaluma incubators, Mr. Gray writes:

The condition of the "Petaluma" Incubators and Brooders that were thrown out by the carload into the street below has proven that our construction of these goods is a resistant of fire. Redwood is hard to burn. It will char, after which it is not easy to ignite. Our wool insulation does not blaze but will smolder. This has protected the inner jute-board lining so that many of the incubators and brooders are hardly discolored from the heat internally. In fact, those that have not been broken and chopped into by the firemen, would do as good work in hatching as if this fire had not occurred.


# Money Making Little Liners

In this department we will insert your advertisement under a classified head for 1½ cents per word. No ad accepted for less than 25c. Our classified columns are the clearing house for our many thousand readers.

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THE KRUCKEBERG PRESS, 123 South Los Angeles St., Los Angeles, Cal., makes a specialty of Horticultural Printing and Engraving. Cuts and illustrations of all standard, economic and ornamental plants on hand and subject to the use of patrons without cost. Samples and estimates cheerfully furnished. Remember we design, write, engrave, bind and print; in brief, do the "whole thing," at no additional expense to the customer. Correspondence a pleasure; a personal visit a joy. Headquarters for catalogues and quadri-color printing.

### FERTILIZERS.

SULPHATE OF POTASH
$60.00 per ton.
For a short time we will sell Sulphate of Potash at $60.00 per ton.
This is the right time to apply it for maturing the crop and the new growth of wood.
This price won't last. Get your supply now from the Armour agent in your district.
THE ARMOUR FERTILIZER WORKS, Los Angeles and Colton.

### HONEY.

SAGE HONEY, GUARANTEED ABSOlutely pure. One 5 gal. can, crated, f.o.b., $4.25, two 5 gal. cans, crated, f.o.b., $8.00. HENRY E. HORN. Riverside, Cal.

### RHUBARB.

CHOICE CRIMSON WINTER RHUbarb and Conover Asparagus one-year plants, from selected seed, for sale in large orders at a little over cost of digging expenses. Write for particulars. W. B. CURRIER, Sea Bright (Suburb of Santa Cruz,) Cal.

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BERKSHIRE PIGS—PERFECT TYPE, popular American strains. A few choice boars and sows. Herd Boar, Kingsclere Duke 111812. G. B. REEVES, Mountain View, Cal.

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COLLIE PUPPIES FASHIONABLY bred, a beautiful spayed bitch, two handsome males sable and white. G. B. REEVES, Mountain View, Cal.

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HAVE YOU A BOY? IF NOT, LET us send you one. We want country homes for boys of all ages. Arrangements to suit. CHILDRENS' HOME SOCIETY, 2414 Griffith Ave., Los Angeles, Cal.

### MISCELLANEOUS.

THE ANCHOR EGG SEPARATOR works perfectly; no weil regulated hotel or household can afford to be without it." So says Delmonico's Chef. Send ten cents or ten names of persons keeping poultry, and we will send one postpaid. Or for 25 names we will also send postpaid "THE POULTRY MANUAL" by those high authorities, F. L. Sewell and Ida R. Tilson, profusely illustrated. WEST COAST MILL CO., 705-709 So. Griffin Ave., Los Angeles, Cal.

A LABOR SAVER FOR WOMEN. Send 10 cents for three weeks trial. Electric Laundry Compound, washes clothes without rubbing. Saves time, labor, and clothes. No lime, lye or acids. Eight washings 25 cents. Money back if not satisfied. ELECTRIC COMPOUND CO., 823 S. Spring St., Los Angeles, Cal.

ONION SEED—THE AUSTRALIAN Brown is the onion for California, as it is the best keeper known. Our seed is the famous Maule Strain, 408 sacks grown this year from 1½ acres. We grow but one kind and guarantee them true to name. Price $1.50 per pound. Send orders to E. F. EDE, Kingsburg, Cal.

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FOR SALE—RHODE ISLAND REDS (Tompkins Strain), Rose and Single Comb Black Minorcas (Northrup Strain), White Minorcas. Day-old chicks hatched to order, and eggs in season. C. U. CHAMBERLIN, Los Gatos, Cal.

FOR SALE—CHINESE PHEASANTS $5.00 a pair. Chinese Silkies, pullets $1.50, cockerels, $2.50. MRS. R. S. SPAULDING, 533 Walnut St., Woodland, Cal.

FOR SALE—TWO FINE BLACK ORpington cockerels, eight months old, $5.00 each. Address, SAN DIMAS, Cal., R. F. D. 47.

CHOICE WHITE LEGHORN COCKerels for sale, from heavy-laying trap-nested hens. For prices address, MRS. A. J. BADGER, Oxnard, Cal.

TWO BRONZE TURKEY TOMS, APRIL hatch. Fine, large birds. $5.00 each. BOX 16, Santa Cruz, Cal.

PIT GAMES—SOUTHERN AND GRADE Japs. O. L. CRANE, Route 3, Santa Rosa, Cal.

### CATTLE.

SPECIAL — FOR SALE, HOLSTEIN bulls, two old enough for service and a number of yearlings. Also a few calves that are small enough to crate Julianas, De Kols and all the strains for which this herd has been famous are represented. The only cows to hold World Records raised in the state were bred on this ranch. Same blood still represented largely in the herd MINNEWAWA STOCK FARM, Fresno Cal.

REGISTERED JERSEYS — YOUNG bulls—Golden Lad strain, heavy milking dams. G. B. REEVES, Mountain View, Cal.

### BERRY PLANTS.

STRAWBERRY PLANTS— FINE ONES Grown and restricted in regular propagating beds, Kellogg system. Planted in November they will pay well in April. 60 cents per 100, $3.00 per 1000, prices on large orders or to the trade on request. J. A. POWELL, Ripon, Cal.

FOR SALE—STRAWBERRY PLANTS. A 1, Arizona, Jessie, Mammoth berry, Logan berry plants by hundred or thousand. F. L. WING, Box 342, Upland, Cal.

DOLLAR STRAWBERRY PLANTS. Strong, healthy runners, grown on new land. Price $3.00 per 1000, special rates on large quantities. Plant now to insure a good stand. A. H. BRYDGES, Loomis, Placer Co., Cal.

STRAWBERRY PLANTS FOR SALE— Vigorous and well rooted plants. Brandywine variety considered standard for coast. $2.50 per 1000. Address JOS. L. OSBORN, Gridley, Cal.

FOR SALE—50,000 CHOICE MAGOON strawberry plants, 500 Italian prune trees 2 years old, 2,000 American gladioli bulbs. F. FOLAND, Santa Cruz, Cal.

FOR SALE—BRANDYWINE STRAWberry plants, $2.00 per 1,000, large amounts $1.50. Address FRANK LIMA, Sebastopol, Cal.

### WANTED.

WANTED—FARMS AND BUSINESSES. Don't pay commissions. We find you direct buyer. Write, describing property, naming lowest price. We help buyers locate desirable properties FREE. AMERICAN INVESTMENT ASSOCIATION, Minneapolis, Minnesota.

WANTED—HARDSHELL ALMONDS for seed purposes. Address, FANCHER CREEK NURSERIES, Fresno, Cal.

### FARM LANDS FOR SALE.

FOR SALE—MY RANCH CONSISTING of 80 acres, 30 acres in fruit and 10 acres in alfalfa, rest pasture with good buildings and drier outfit, is located 5 miles southeast of Visalia with R. F. D., lots of water to irrigate flowing though the land; fruit mostly consists of French prunes and peaches. For further information inquire at SAM'L A. HUTH, Visalia, Tulare Co., Cal.

320 ACRES OF RED LAND NEAR Sanger. Ditch for irrigation runs through the place. Small buildings. We consider this our best buy in this size tract. Price $35.00 an acre, $5000 cash. This must be taken quickly or it will be remortgaged and taken off the market. THE CITRUS LAND CO., Sanger, Fresno Co., Cal.

WE SELL LAND. LOOK AT THIS. 100 acres, close in, well improved, $100 per acre, will be worth $200 in one year. We have other improved farms farther out $25 to $50 per acre. Inquire, PEARS & CHASE, Albany, Oregon.

FOR SALE 5 ACRES PLANTED IN some grapes, logans, strawberries and fruit trees, a few minutes walk to the electric cars, store, blacksmith shop and school. Address, FRANK LIMA, Sebastopol, Cal.

I MAKE A SPECIALTY OF ORANGE and alfalfa ranches and exchanges 826 Main St., Room 9, Riverside, Cal N. R. BELL.

### MACHINERY.

FOR EXCHANGE—ONE 5-H. P. GASoline Engine. A great bargain. MACHINERY EXCHANGE, Main & Bruno Sts., Los Angeles, Cal.

FOR SALE—SECONDHAND WINDmill, tanks, pumps, engine at one-half new price. Special, 12 H. P. Webster, fine running order, $250; $150 cash, balance six months or horse of equal value. Also 5-H. P. fine pumping plant including deep well pump, house and 10,000 R. W. tank a snap at $250. See us and get prices. DEMMITT CO., 120 N. Main St., Los Angeles, Cal.

FOR SALE—ONE 15 AND ONE 25-H. P. Gasoline Engine. Same as new. A snap. BAILIE & BRANDT COMPANY, 943 & 945 North Main St., Los Angeles, Cal.

FOR SALE—MOTORS AND GENERators. Perfect condition. We buy, rent and exchange. BAILIE & BRANDT COMPANY, 943 & 945 North Main St., Los Angeles, Cal.

FOR EXCHANGE—ONE 20-H. P. three-phase motor. Good as new. MACHINERY EXCHANGE, Main & Bruno Sts., Los Angeles, Cal.

### TREES.

FOR SALE—1500 EUREKA LEMONS 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. B. WARNER, Santa Ana, Cal.

FOR SALE — STRONG OUTDOOR grown rooted cuttings. Send for 1-2-3 cent list. Other plants. Fine let Blue Gums qt. tins—3 to 4 ft. GEM NURSERY, Los Gatos, Cal.

WRITE TO US FOR SPECIAL PRICES on first-class prune or peach trees, or berry vines. State number wanted. GRIDLEY COLONY NURSERY. Gridley, Cal.

FOR SALE—100,000 SEED BED ORange trees. For prices and terms address, L. Z. HUNTINGTON, Anaheim, Cal.

ORANGE SEED BED STOCK, EXTRA fine. Also Valencia Orange trees. Prices very reasonable. ROBERT HANSEN. Anaheim, Cal. R. R. No. 4.

### TREES WANTED.

FOR EXCHANGE—1000 PHOENIX Canariensis Palms, 1000 California Peppers, and 100 Black Acacias, 2 years old, in 4-inch pots. Want peaches, apricots, plums or apple trees, No. 1 stock. Address, H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

### RARE PLANTS.

WILD PLANT IMPROVEMENT GARdens, Santa Ana, California, NEWTON B. PIERCE, Proprietor. Rare, choice ornamentals and new fruits from all lands.

12 IMPROVED SHASTA DAISIES $1.00 postpaid. Get list of field-grown roses. BALLOU'S NURSERY, Pasadena, Cal.

### GRAPE VINES.

CHOICE GRAPE VINE ROOTINGS, Tokays a specialty, all varieties at market prices. ATLANTA NURSERY CO., Louis Vistica, Manager, Atlanta, Cal.

### RUBBER STAMPS.

SEND IN YOUR ORDERS FOR RUBber stamps, dies, stencils, etc. Catalogue on request. F. W. HOPKINS PTG., CO., 641 S. Main St., Los Angeles, Cal.

The home mending keeps the household scissors and shears in daily use—clipping, snipping, ripping and cutting all kinds of goods.

It demands blades that stay sharp—joints that stay tight—points that stay right. The only kind for the housekeeper is

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**Scissors and Shears**

made in all shapes and sizes. They are always ready to use, and easy to use, for they fit the hand and require no pressure to keep the blades together.

Look for the trademark on every pair—it guarantees good service or your money back.

This same guarantee goes with Keen Kutter Pocket-knives for men and women.

Keen Kutter Cutlery and Tools have been sold for over 40 years under this mark and motto:

*"The Recollection of Quality Remains Long After the Price is Forgotten."*—E. C. Simmons.

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**SIMMONS HARDWARE CO. (Inc.), St. Louis & New York, U. S. A.**



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YOU ought to be taking advantage of the superior strength and service which this Bank offers Depositors. If deposited here, your funds are protected by Resources of over $13,000,000.00. You are allowed Four per cent interest on "Term" deposits; and Three per cent on "Special Ordinary" deposits, subject to check.

No matter where you live you can bank here by mail, conveniently and safely. Write for "Booklet L." It gives complete information.

**Spring and Fourth Streets, Los Angeles, Cal.**

**Going to build? Settled the Roofing question yet? Or it may be that you have an old roof that needs replacing. If you want a roof that will wear for years without paint or repairs, Pioneer Roofing is what you are looking for.**

*Let us send you samples of Pioneer Roofing and our 32-page Roofing Booklet.*

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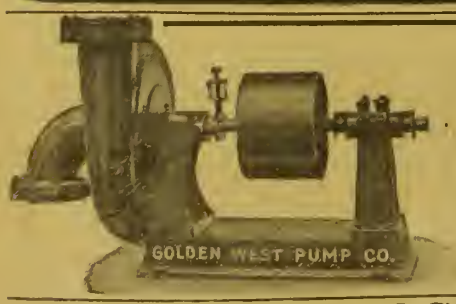


## Golden West Pump Co

311 Harriet Street San Francisco, Cal.

**Manufacturers of**

Centrifugal and Deep Well Pumps, Foot, Check and Flap Valves, Long Sweep Flanged Elbows, Pipe and Casing Flanges, Pipe Saddles, Pipe Clamps, Etc.

**Write for prices.**



## 125 to 140 lbs. of Grapes to the Vine

Raised by Ex-Postmaster Rush Stevens of Sacramento on his ranch with

**Tom Lewis' Fertilizer**

My Fertilizer is lower in price than other fertilizers and guaranteed to give results. I have hundreds of testimonials. Send for circular and prices.

**Tom Lewis, 1916-1918 10th St., Sacramento, Cal.**


### Family Orchard.

Please advise me as to different varieties of fruits for family orchard. Have good soil, sloping south, and pumping plant. Would prefer such fruits as apples, pears, peaches, apricots, plums, etc., also berries. Have raised alfalfa successfully for twelve years in northwestern Nebraska. There I found barnyard manure gave excellent results. I have some fifty loads on hand. Will it be advisable to place it on alfalfa?—J. E. T., Chino.

In planting fruits for a family orchard we would make a special effort to grow small fruits and others that cannot be satisfactorily purchased in the market, that is, the soft fruits like figs, and even peaches which bought on the market are often picked green, hence not of high quality. We recently saw where a farmer with only a small portion of land given to family orchard was growing several soft shell walnuts. Such trees require a great amount of space and the product is no more satisfactory than can be procured on the market. We would plant figs, probably not to exceed one or two trees, one black and one of the small Smyrna fig. If one has plenty of room, more might be planted, but these two trees will supply several families with fruit. Peaches should be planted in variety so as to begin bearing in June and carry through till late October. Apples we would plant sparingly, for the same reason that we would not plant walnuts. However, the early summer apples would do well at Chino, and if desired, one or two of the winter varieties might be planted, but we should prefer to buy them from a section better adapted to winter apple growing. Bartlett, and possibly Winter Nelis pears would be about all you would care to have. With plums, we would like to have several trees, the cherry plum, French prune, sugar prune, Wickson and possibly a Kelsey.

As to these fruits, your neighbors can give you more explicit information as to varieties which have done best in that locality. Of berries, we would have Cuthbert and Rochelle raspberries, dewberries and a good mammoth blackberry, strawberries in variety. Two or three beds of strawberries, by withholding and giving water at proper season, will give you fruit the year through.

It would be a good plan to write to the various nurserymen advertising in the Cultivator for their catalogues. These give the good points of the different varieties and their time of bearing and from these you can make out a list which will suit your own fancy better than can be done by one who does not know your needs.

By all means apply all the fertilizer you can get.

### Fertilizer for Walnuts.

Would you recommend commercial fertilizer for walnut orchard eighteen years old? It had an application of two tons of superphosphate two years ago. No other commercial fertilizer has ever been used on it, but it has had bean straw and some manure for the last five years. The orchard bears seven or eight tons per year. Would it do to use potash or nitrate of soda? What time of the year should it be put on? The nuts are soft shell. Would you advise vetch?—G. L. A., Fillmore.

As the inquirer does not give the number of trees bearing the seven or eight tons it is impossible to know whether the orchard is up to its capacity or not but it is a fact that orchards with greatest amount of fertilizer and in best tilth produce most profitably, and this one has only been fertilized once in eighteen years with commercial fertilizer and possibly not very heavily with stable manure. We would recommend, without knowing more of the particulars, that the ground be thoroughly irrigated and cultivated at once to make good seed bed for vetch, adding superphosphate or a complete fertilizer to give the vetch seed plenty of available plant food at once to make a good growth. Drill in the seed at the rate of 40 pounds to the acre, and then furrow so as to irrigate should the rains not be sufficient during the winter season. Keep growing the winter through till February or March, but be sure to plow under before the ground gets too dry. Put under deeply, at the same time giving an application of superphosphate. Continue the application of all the stable manure possible to secure.

### Turkestan Alfalfa.

Where can I purchase Turkestan alfalfa seed?—Subscriber, Arroyo Grande.

This plant has not proven satisfactory to the extent that seedsmen generally carry it. However, any seedsman advertising in the Cultivator will get it for you. We cannot see wherein one would like that particular variety in the Arroyo Grande section, for we believe that the common or Chilean variety would prove far more satisfactory. Possibly the subscriber is thinking of the Arabian which has proven in many sections of the state more satisfactory than the ordinary alfalfa. The seed for it cannot be had at the present time, but the government importation is expected to arrive in December, when it will be placed in the hands of several distributors in different parts of the state. As soon as announcement is definitely made as to who the distributors will be, the names will be given in the Cultivator.

### Squirrel Poison.

What is the proportion of strychnine, saccharine and white of egg used to poison squirrels?—Subscriber, Vacaville.

We have no formula containing white of egg, but if subscriber will refer to issue of May 20th, Page 589, he will find two good formulas.

### CLOTHES-CLEANING COMPOUND.

Such a compound may have the following composition:

| | |
|---|---|
| White Castile Soap | 90 grn. |
| Alcohol | 4 dr. |
| Glycerin | 1 fl. oz. |
| Ammonia Water | 1 fl. oz |
| Ether | 1 fl. oz. |
| Water | to make 16 fl. oz. |

Add 3 dr. of this mixture to a 4-oz. bottle, and add benzin, a little at a time, shaking thoroughly after each addition, until bottle is full; the result will be a thick white cream.—Merck's Drug Report.

### ETCHING SIGNS ON GLASS.

The following process has been recommended for this purpose:

| | | |
|---|---|---|
| a—Sodium Fluoride | | 9 dr. |
| | Pottassium Sulphate | 110 grn. |
| | Water | 1 pint |
| b—Zinc Chloride | | 215 grn. |
| | Conc. Hydrochloric Acid | 10 fl. dr. |
| | Water | 1 pint |

Equal parts of solution a and b are mixed in a rubber or other suitable dish and applied to the cleaned glass with a rubber pencil or brush.—Merck's Report.

# Household Department

## THANKSGIVING.

THANKSGIVING is a day of American origin. When the Pilgrim fathers came to America they sought freedom from religious persecution. The fall of 1621 found them much reduced in numbers but the spirit of those living was undaunted. They had had fairly good crops and the Indians were their friends. After their crops had all been garnered Governor Bradford thought that God ought to be thanked for the mercy He was showing them. Accordingly he sent men to hunt wild turkeys and upon their return the little colony on New England's soil gathered together to thank God for His mercy and to celebrate the day with festivity. It was a great feast and one that meant much to the sturdy pioneers. Such prayers for help and guidance through the coming winter, and such thanks for the products of their labors, have perhaps seldom been heard by so many at one time. The feast was repeated in succeeding years and soon it became a custom that was followed throughout the New England states at different periods in the year until in 1863 when the president of the United States set apart a special day for national thanksgiving.

From such a beginning has arisen the grand national anniversary of Thanksgiving day. Thanksgiving is indeed a home festival; it is the day when the young come home from college, and the middle aged return to the home of their childhood. It is a day when mother longs for her sons and daughters and when father grows reminiscent. It is a day that is crowded with memories of the past, sometimes pleasant, sometimes sad. To those whose memories bring sadness to their hearts on that day, let us be kind and thoughtful. Let us take them into our happy homes and help make the day for them what it ought to be for all of us—a day of genuine thanksgiving with prayers rising to God for the many blessings received during the year. Let us repeat what some man filled with the spirit of Thanksgiving said:

Praise God for wheat so white and
sweet of which to make our bread;
Praise God for yellow corn with which
His waiting world is fed;
Praise God for fish and flesh and fowl,
He gave to man for food;
Praise God for every creature which
He made and called it good;
Praise God for winter's store of ice,
praise God for summer's heat;
Praise God for fruit-bearing seed, to
you it is for meat;
Praise God for all the bounty by which
the world is fed;
Praise God, His children all, to whom
He gives their daily bread.

—Farmer's Tribune.

## THE THANKSGIVING DINNER.

THE DAY of days has come again; the feast day of the season is here, the day when the prayers of a Nation are raised in one glad thanksgiving praise. Aside from the day being devoted to thanks it is also a time when families are reunited, when they gather around the table and enjoy a genuine feast. Let us go back to the New England home and imagine ourselves partaking of a genuine New England dinner:

MENU.

Oyster Soup

Dill Pickles Crackers
Turkey With Chestnut Dressing
Brown Gravy Sweet Potatoes
Mashed White Potatoes
Cauliflower in Cream
Green Tomato Preserves
Sweet Apple Pickles Cranberry Jelly
Celery
White and Brown Bread
Apple and Nut Salad Wafers
Pumpkin Pie Apple Pie
Cheese Coffee

This menu, while large, is not unlike those served by our forefathers. We have things to contend with which did not exist in earlier days. The meat for the feast was the cheapest part of their dinner; today it is the most expensive. We have to think of the turkey bill first and purchase other things with the money left. If you must purchase a turkey for the Thanksgiving dinner be sure to buy a young bird. If you buy a live bird pick one with smooth, spineless legs and without a tuft of heavy bristles on the breast. If you are compelled to purchase one from a butcher then take one with smooth legs, with a breast bone that is easily bent, and one whose flesh shows blue underneath the skin.

In stuffing the fowl do not fill it too full; put in just enough to make the bird look natural. If there is a possibility of the meat being dry it is a good plan to lard it. To do this cut gashes in the dry portions of the fowl and put in strips of fat pork one-fourth by one-fourth by one and one-half inches in size. If possible refrain from larding because it spoils

## THANKSGIVING.

Thanksgiving! Thanksgiving! November is here,
The beautiful crown of the wonderful year!
Like doves to the windows from east and from west,
The children come back to the cozy old nest.

Thanksgiving! Thanksgiving! the old folks at home
Are so glad by the fireside to see them all come
Though the forties and fifties are silvering their hair,
They are boys yet and girls to the good people there.

Thanksgiving! Thanksgiving! sit down by the fire,
Talk over old times with the happy old sire;
Tell the mother, whose hair is like new-fallen snow,
That you love her no less than in days long ago.

Oh, the home—the old home! The new may be sweet,
But not like the old to the world-weary feet;
Be it long ere the hearth-light shall fade from its walls,
And the cheerful old love-light go out in its halls.

"See the shadow the book throws across my waist? It's like the shadow caused by the metal burner or tank of your light—with this difference, I can take away the book and get direct, shadowless light. See the point?"

MORE LIGHT

—where more light is needed—that's what The Angle Lamp gives. It is oil lighting at its best with the smoke, odor and bother eliminated by new methods. It throws upon book or table a direct shadowless light delightful to read or work by.

THE ANGLE LAMP

resembles a handsome gas chandelier in its appearance and in its convenience. It is lighted and extinguished like gas. May be turned up full or turned low without odor. Safely filled while burning. Requires filling once or twice a week. Floods every corner of the room with a splendid light. Costs about 3 cents per week. Made in 32 varieties, a style to suit every need and taste. Call or write for catalog.

Boesch Lamp Co. 1135 Mission St. San Francisco
Established 1869. Incorporated 1890.

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ALBERT S. WEAVER PRESIDENT

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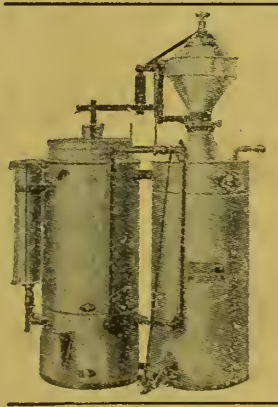
New building, new equipment; located in the best business district. One of the lightest, most convenient and best-equipped business colleges in America. Write for information about the great opportunities offered to trained office workers in the new San Francisco.



Superior Acetylene Generator

1. Installed at small cost.
2. Requires little attention once or twice a month.
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6. **Acetylene** makes a brighter light than any other light.
7. It is cheaper than oil and free from smoke.
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We want agents. Write for catalog No. 1.

Superior Light & Heat Company

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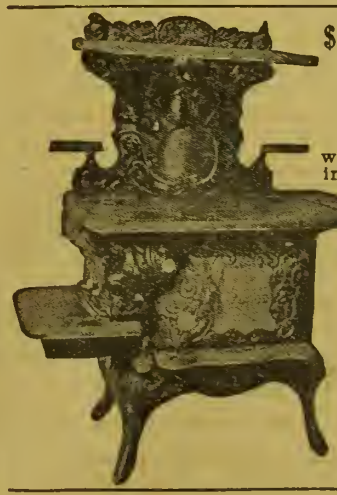
422 Monadnock Building, San Francisco



$16.30 buys this handsome six-hole Nickel-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

The Wm. Peck Co.

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When writing advertisers, mention Cultivator.

# SEND TODAY

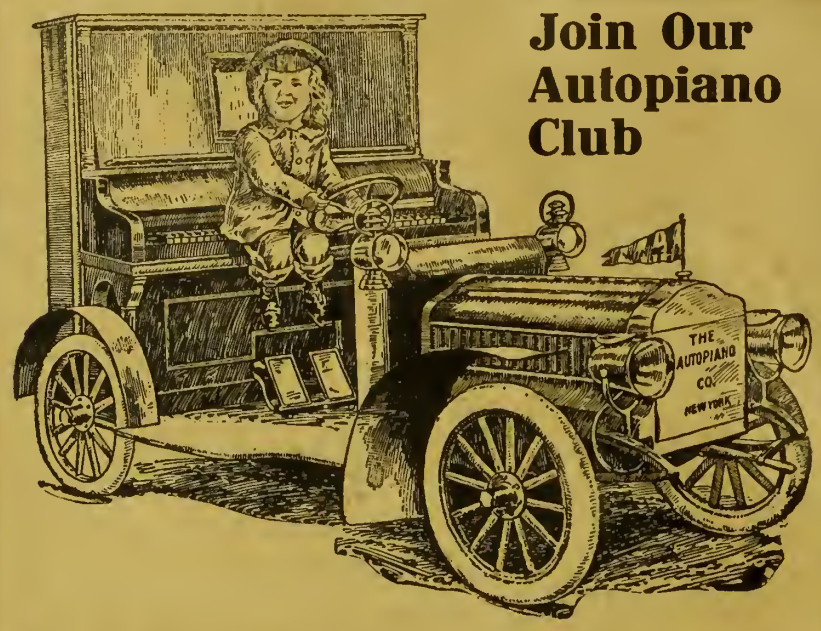
## 32 Page 1910 Chick

Illustrated catalog and hatching egg book. Ready to mail in ten days, largest and most complete baby chick book ever printed. Contains lectures on how to raise and feed baby chicks and tells all about the different kinds we have to sell. Tells how we ship them, and gives you the names of people in every town within five to eight hundred miles who have bought baby chicks of us. We are the largest dealers in baby chicks in the world. Make arrangements now for your chicks to come later. There will be a shortage of chicks this year as so much poultry has been sold off it will be impossible to get enough hatching eggs. We have contracted for enough eggs and outside hatching to have over 100,000 eggs incubating by Feb. 1st. Send today for the Free book.

150-Chick Fireless Brooders only $4 with chicks.
Please mention five of your poultry friends names.

## Pioneer Hatchery Co.

**112 East Eighth Street** **Los Angeles, Cal.**




## Join Our Autopiano Club

## *Membership Limited to 50--- Ouly a Few Days Remain*

You have never heard this proposition before—You will never have the opportunity again—

## *We Want Fifty Second-Hand Pianos*

**Write or telephone us the make and number of your piano and we will tell you how to get a new Autopiano at special club prices.**

This Autopiano Club offers to 50 purchasers the chance to get the latest model 88-note genuine Autopiano, with privilege of free exchange of music rolls in our Immense Library on terms utterly impossible under the ordinary conditions of piano selling. But you must make application now.

PAYMENTS BEGIN NEXT YEAR—JOIN NOW.

**List of About 1000 Customers to Whom We Have Sold Autopianos Will Be Mailed on Application. Open Every Night This Week.**

## BARTLETT MUSIC CO.

**231 So. Broadway** Opposite City Hall **Los Angeles, Cal.**

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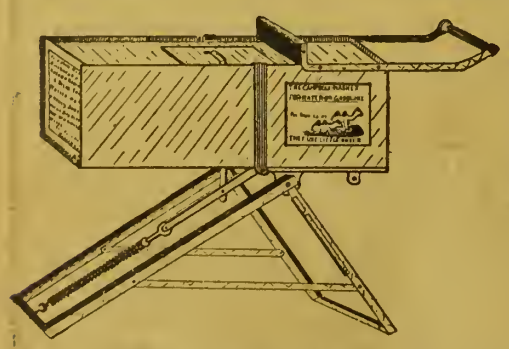
## A Campbell Washing Machine



will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

**FOR WATER OR GASOLINE**

Circular on application. **For Sale by**

## Boesch Lamp Co.

**1135 Mission St.,** Near the Post Office, **San Francisco, Cal.**

## *SEED GRAIN* *BLACK AND RED OATS, WHEAT, BARLEY. BEAN SCREENINGS*

for Stock and Poultry. For sale at lowest market rates. ***BRAY BROTHERS*** Buyers of Grain and Beans. Members of Merchants Exchange ***220 Clay St., San Francisco*** Established in 1855. Correspondence Invited


the appearance of the fowl when put on the table; it also makes the gravy too fat and gives a decided porky flavor to the meat. To make the meat juicy in another way, one which is perhaps more commonly used, make a basting water by using one quart of water, two tablespoonfuls of butter, and pepper and salt to taste. Every 15 or 20 minutes while the fowl is in the oven moisten the dry parts with this. When completely roasted lift the turkey into a dripping pan and set it back in the oven until the rest of the dinner is ready to be served.

In making the oyster soup,say for 10 people, purchase two quarts of oysters and use two and one-half quarts whole milk and one quart of water and enough butter to suit the taste. Drain off the liquid from the oysters and put it and the milk in a double boiler to heat. When at the boiling point add the oysters and cook until they commence to curl up around the edges. Then salt and pepper and add a piece of butter. Serve at once in warm soup plates.

In baking the pies make a rich pastry for lining the tins and prepare the filling for pumpkin pie as follows: For each pie use one and one-half cups of well cooked pumpkin; one and one-half cups of milk; one cup of sugar and two eggs. Add ginger, cinnamon and salt to taste, beat thoroughly and put into the crust. Bake in a slow oven until brown. Just before serving grate a generous amount of cheese over the top.

For apple pie prepare several tart apples and cut them into thin slices; add the sliced apples to the pie and pour over them one cup of sugar, one-half teaspoonful of cinnamon, then drop several small pieces of butter on the top and put on the upper crust. Bake in a medium oven until the apples are done.

For making brown bread use two cups of sweet milk, two-thirds of a cup of molasses; one and one-half cups of graham flour; two cups of corn meal; two teaspoonfuls of baking powder; and three-fourths of a teaspoonful of salt. Mix well and put into well greased pudding molds. Steam three hours.

In making cranberry sauce use one quart of cranberries; one and three-fourths cups of water. Cook until the skins burst; then rub through a colander and remove the latter. Then put the berries on the back of the stove and add two cups of sugar. When the sugar is dissolved and well mixed turn the sauce into a mold previously moistened with cold water. It will then form a stiff jelly.

Our New England ancestors never served meals in courses, consequently when their Thanksgiving dinners were served everything for the meal was put on the table and it is said that their tables fairly groaned with the weight of good things. We may follow the old New England custom or serve the dinner partially or wholly in courses.—Farmer's Tribune.

### RESEAT AND RECEIPT.

David Slowpay: "I shall bring you back those dark trousers to be reseated, Mr. Snip. You know I sit a good deal." Mr. Snip (tailor): "All right; and if you'll bring the bill I sent you six months ago, I will be pleased to receipt that also. You know I've stood a good deal."—Baker's Helper.

### THE THANKSGIVING TABLE.

After the use for long years of a pumpkin centerpiece on the table on Thanksgiving day many a hostess will heave a sigh of relief to have something suggested which is quite as characteristic in color as the pumpkin, and far more artistic. This is a great, beautiful bunch of yellow chrysanthemums set off and relieved by large sprays of dead, brown oak leaves. The combination is really lovely, and most suitable to autumn, and to a pretty dinner-table. If the first course is grapefruit, this can be arranged before the family and guests sit down, and the yellow will still further emphasize that of the flowers.

**Flowers for Decorating.**

In selecting flowers for decorating a table a great deal of thought should be given to the subject of color. The room itself must be considered, the colors of the china to be used, and, if possible, the colors of the gowns to be worn at the table. The color effect is fully as important as the beauty of the flowers themselves or their arrangement. It is very important to light a table from below rather than from above. If possible, one should always either have candles or small lamps. If this is not enough, the light from above should be almost indistinguishable. The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FARMERS who are now receiving the money from crops and other sources, for which they desire absolute safety, can make their deposits with this Bank by mail, avoiding the necessity of visiting the bank personally. Liberal rates of interest are paid on deposits from One Dollar upwards. **PAID UP CAPITAL $1,000,000.00**

**THE OLDEST SAVINGS BANK IN CALIFORNIA**

## "Rosette"

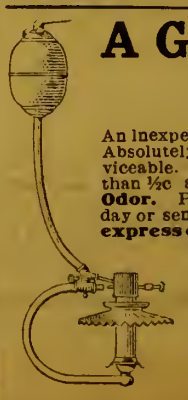
**Patty Irons—Wafer Irons**

Every housewife should have a set. Will be used every day.

**Patty Irons** for making dainty, flaky patés or timbales; delicate pastry cups for serving hot or frozen dainties—creamed vegetables, salads, shell-fish ices, etc.

**Wafer Irons** for making deliciously crisp, melting wafers—a tempting dessert served in many delightful ways.

Either Wafer or Patty Irons per set at your dealers 50c—by mail 75c. Do not let your dealer sell you any but the Andresen Irons, others are not as good. A beautifully illustrated recipe booklet sent with each set, or mailed to you free on request. Ask for booklet No. 20. ***CALIFORNIA SUPPLY CO***
***268 Market St. San Francisco, Cal.***



## A Gasoline Gas Light

An inexpensive, strong, white light. Absolutely safe, convenient and serviceable. 100 candle power at less than ½c an hour. **No Smoke, No Odor.** Price only $7.50. Order today or send for circular. **We pay express charges and guarantee satisfaction.**

**OAKLAND SUPPLY CO.**
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## THIS PICTURE TELLS OUR STORY

We are the largest exclusive Mail Order House in the West. We sell everything you eat, drink, or use. Everything for everybody. No goods sold over our counters. Mail Orders only.

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shows you how to make money, for saving money is the best way to make money. Send today for this catalogue, it's free. Join the thousands of our enthusiastic customers who are saving from one-third to one-half on their purchases. Distance is no drawback, no matter where you live our catalogue wil save you money.

A few of our lines:

| | |
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| Groceries | Furniture |
| Dry Goods | Hardware |
| Stoves | Paints |
| Drugs | Carpets |
| Crockery | Harness |

Wearing Apparel
Boots and Shoes
Sewing Machines
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Anything and everything you eat, wear or use.

## Harlow-Bricca Company

**San Francisco**

## $24.85

**for our "International" Sewing Machine with Automatic Lift, Drop Head and every improvement known to the machine world.**

**Makes Double Lock Stitch**

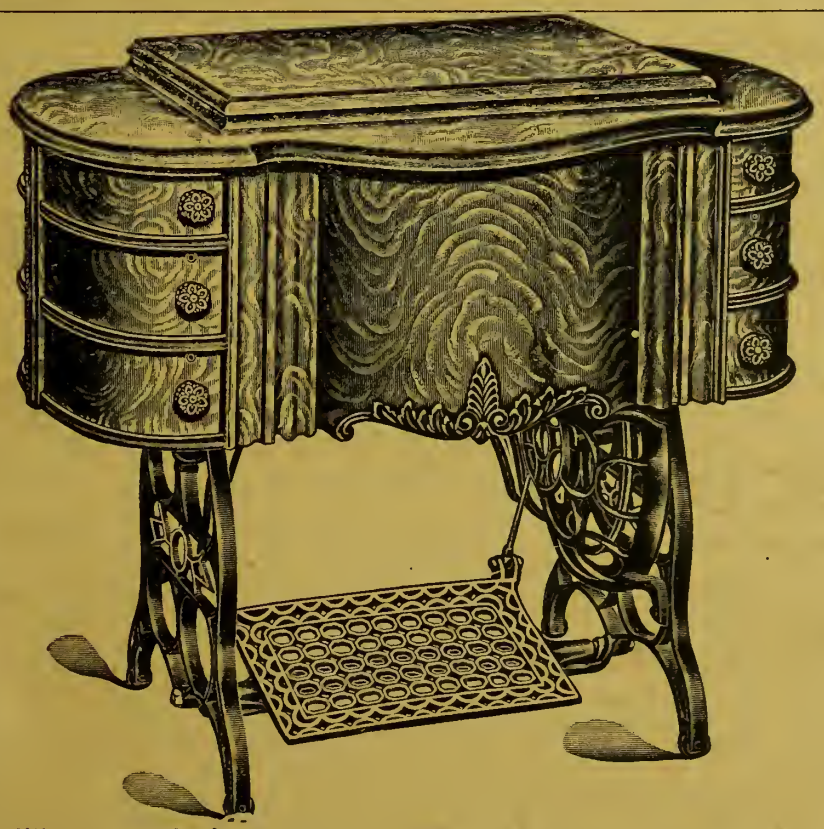
The freight amounts to almost nothing compared to the tremendous saving.

### Ball Bearing, $24.85

$24.85 is our price for our "International," the handsomest, most practical, best finished Sewing Machine ever offered under $50.00; we'll go further than this, and guarantee that no better Sewing Machine is made at any price, by anybody, anywhere.

**THREE MONTHS' TRIAL.**

Send us your order for our seven drawer International at $24.85 or or our four-drawer International at $23.85, and enclose our price, and we will promptly ship the machine to you carefully packed with the understanding that you can put it in your home, test it, try it and use it, in any manner that you have been accustomed and if you are for any reason dissatisfied, you have the privilege of returning it to us at any time within three months. We will not only refund the price you paid for it, but will also refund the freight charges both ways. WE GUARANTEE every Sewing Machine to reach you in the most perfect condition and ready for use the moment you have uncrated it.



**OUR TEN-YEAR GUARANTEE.**

With every Sewing Machine we sell we issue a written binding ten-year guarantee so that if during that length of time any piece or part gives out by reason of defect of material or workmanship, we will replace or repair it absolutely free of charge. More than that we give you the signature of our factory which is one of the pioneer Sewing Machine factories of the world as well as one of the largest and most successful.

**LOWER PRICED MACHINES.**

We have lower-priced machines but advise you to buy our "International." For example: we can give you a five-drawer, drop head style machine with latest design woodwork, our improved "WENTWORTH," for **$13.65**, and it's better, far better than most machines selling for as high as $30.00.

At $19.65 we can give you our "REGENT" drop head, automatic lift, and beautifully designed woodwork. An absolutely high-grade machine having all the latest and most desirable mechanical improvements and one that will last a lifetime, and give better service than most machines selling as high as $40.00.

WE RECOMMEND OUR INTERNATIONAL. When you buy a Sewing Machine you are buying an article that is to be a lifelong companion and assistant in the duties of your home. This being the case, you should exercise much care and judgment in making your selection, bearing in mind during that period that it is to your interest to pick out a Sewing Machine on which you can fully depend for full satisfactory service over a long period of years.

**DESCRIPTION OF OUR INTERNATIONAL SEWING MACHINE AS ILLUSTRATED.**

No higher grade, no easier running, no better or more durable Sewing Machine ever produced in any country at any price.

THE SEWING MACHINE IS A WORK-DOER. Hence the most important part is the head which contains the particular works. The head in our International has a combination of the best mechanical features and has been compared and tested alongside other leading standard makes.

This illustration shows seven-drawer International Sewing Machine with drop head and automatic lift—the highest type of family Sewing Machine.

THE CASE OF THE INTERNATIONAL MODEL is decidedly attractive in design and is highly polished quarter-sawed oak, most solid and substantial in construction. The design is colonial and there are none of the flashy trimmings found on cheaper and flashy machines. Everything is simple and elegant.

THE SIX SIDE DRAWERS show off the handsome grain of the quartered oak to excellent advantage. They are fitted with attractively designed brass pulls and there is an eighteen-inch tape measure on the table, a convenience which the operator will be quick to appreciate.

AUTOMATIC LIFT. By means of the tested steel cable lifting device the sewing head is raised AUTOMATICALLY to position with one motion of the arm.

THE INTERNATIONAL SEWING HEAD, fully described above, has more improvements than any other machine in the market.

THE WONDERFUL DISC TENSION with device which AUTOMATICALLY releases all tension on the upper thread when the presser bar is raised to remove work is a time-saving feature of much benefit to the owner of the machine. Then there is the Automatic Bobbin Winder, the Automatic Stitch Regulator, the Automatic Device for throwing machine out of gear when winding bobbin, the Self-threading Shuttle, the Steel Capped Needle Bar, the Self-setting Needle, the Positive Take-up, and all the Steel Working Parts hardened in oil.

THE INTERNATIONAL BALL BEARING STAND. The wheel operates on two sets of ball bearings traveling independently with treadle by unbreakable polished steel pitman with ball and socket connection which makes hard and noisy running an impossibility.

FREE A FULL SET OF HIGHLY NICKEL PLATED STEEL FOOT ATTACHMENTS, packed in a velvet-lined metal box is a source of much service and comfort to the owner of an International machine. It contains as follows: Ruffler, Tucker, Binder, Braider, Feller, Quilter, Four Assorted Hemmers, Cloth Guide, Twelve Needles, Six Bobbins, Two Screw Drivers, and filled Oil Can.

Our "International," seven-drawer, exactly as illustrated including full set of highly nickeled steel attachments .....$24.85

Our "International," four-drawer, including full set of highly nickeled steel attachments....**$23.85**

Mayer WORK SHOES

It is not necessary for a work shoe to look clumsy to give good wear. Have your dealer show you the good looking, comfortable, well-fitting, Mayer Work Shoes.

Made of tough stock, heavy soles, solid counters, double leather toes, double seams. Made solid and will last longer than any other shoes you can buy.

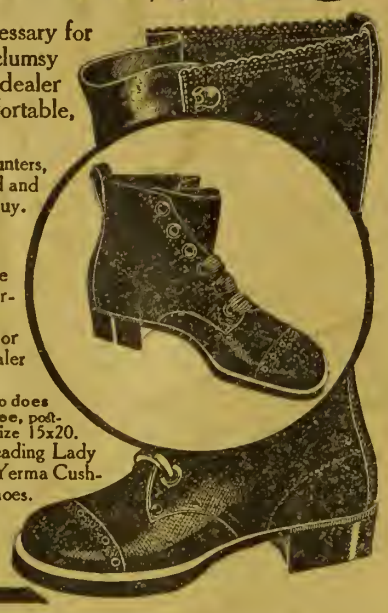
MAYER WORK SHOES

are made for working men of all classes and are "built on honor." You can save money by wearing them. Will outwear any other make.

To be sure you are getting Mayer Shoes, look for the Mayer Trade Mark on the sole. Your dealer will supply you; if not, write to us.

FREE—If you will send us the name of a dealer who does not handle Mayer Work Shoes, we will send you free, postpaid, a beautiful picture of George Washington, size 15x20.

We also make Honorbilt Shoes for men, Leading Lady Shoes, Martha Washington Comfort Shoes, Yerma Cushion Shoes and Special Merit School Shoes.



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F. Mayer Boot & Shoe Co.
MILWAUKEE, WIS.

WESTERN BRANCH: Washington Shoe Mfg. Co.—Seattle.



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We want to get acquainted with the readers of the Cultivator. We want you to call at our store,—meet us, see our goods.

The Ladies' Rest Room is equipped with every comfort for a temporary rest;—telephones, writing material, etc. You are always welcome.

We are sole agents in this territory for the following lines:

Hoosier Kitchen Cabinets, Bohn Syphon Refrigerators, Grand Rapids Furniture Co., Craftsman, Butler, Widdicomb, Royal, Birch, Ltd., London, and Hastings Tables.

Every article we sell is guaranteed both by us and the manufacturer.

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**Pease Bros. Furniture Co.**

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# Cook With Gas

## Light Your Home

with a safe and economical Gas made from gasoline at one-third the cost of acetylene, and the only attention required is to fill the carbureter twice a year.

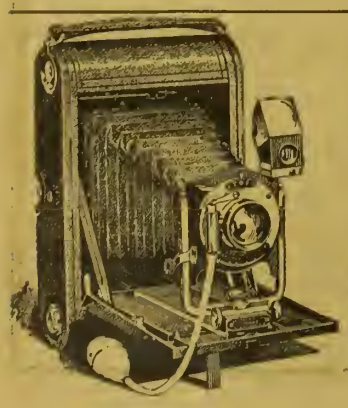
10 Cents a Day

is the cost for an average family. Over 200 plants in or near 78 towns in California. Send for catalog No. 300.

Agents Wanted

**Western Gas & Power Co.**
Seventh and Cedar Sts., Oakland, Cal.





# Kodaks

Developing, Printing
Enlarging, Supplies.

**Earl V. Lewis Co.**

**226 W. 4th, Los Angeles, Cal.**

Mail Orders Solicited


candle-light is much the prettiest light for the decoration as well as much more becoming to the guests.—Harpers Bazaar.

### Another Table Decoration Suggestion.

One effective scheme of decoration consists of dark red oak leaves, branches of pine and pumpkins. A large pumpkin is hollowed out and the top cut down low enough to make it into an effective flower bowl. This is for the center of the table, and the branches of oak and pine are gracefully arranged in it. The bunch must be loosely arranged, so that the orange of the pumpkin will show through, giving glimpses of brilliant color to offset the somber tones of the foliage. A mat of green pine, with here and there some drifting oak leaves, is arranged around the base of the pumpkin, and smaller artificial silk pumpkins are placed here and there to give color. Bonbon boxes made in the shape of pumpkins are placed around at the plates, with tiny branches of oak leaves. The shades of the candles are of orange paper made like the large Japanese shades, with here and there a little branch of green pumpkin leaves painted on them. The candlesticks themselves are brass.

Wheat or oats may be combined with the red leaves and arranged in this same way with the pumpkins, but wheat or oats arranged in stacks as the corn is arranged in the field, at harvest-time, are even more effective. There should be one large stack on a mat of wheat in the center of the table, with several small stacks around it, and the little artificial pumpkins scattered among them. The candlesticks at the four corners may become the centers of smaller stacks, with yellow or red candles rising from them without shades. To add to the color effect, orange ribbons may be laid upon the cloth running from the mat of wheat to the corners and sides, and allowed to hang down.

### GOOD TASTE IN VEILS.

"The mission of the veil is to keep the hair in order and to enhance the brilliancy of the complexion," says the Woman's Home Companion for October. "It should not be striking in itself. Heavily-spotted nets and lace veils of conspicuous pattern should be for this reason tabooed. They are trying to rise above their sphere, trying to be something on their own account, and so they conceal the face, and incidentally ruin the eyes.

"Nevertheless, it is the veil with the large, conspicuous mesh that Fashion is specially favoring both in Paris and New York just now.

"For the perfect complexion the best veil is perhaps the plain, fairly large-mesh net which is hardly noticeable and only serves to keep the hair in place. Most of us, however, require in the hard light of out of doors some simple beautifier, and for us the spots and lines of the patterned nets are a boon.

"The most generally becoming veil has a black figure on a white ground; the white net coming close to the skin heightens its fairness, while the black spots accentuate its brilliancy. A veil of this type is becoming according to the size and arrangement of its spots. The black chenille dots with a generous space between act like the old-fashioned "mouche," the touch of black court-plaster at the side of the chin or near the outer corner of the eye, so much affected by the clever beauties of the time of Marie Antoinette. When these spots come closely together the white spaces are not sufficiently large to do their work and the effectiveness of the spots is almost, if not entirely, nullified."

### CURING COLD IN ADVANCE.

We get sick because we are too lazy to keep well, according to Dr. Woods Hutchinson in Woman's Home Companion for October. We are always looking for short cuts to health. Of reputed cures for coughs and cold, he says:

"Their name is literally legion, for hardly a drug can be mentioned, hardly a substance discovered, which is capable of either being swallowed or inhaled, that has not been recommended as a cough remedy. Eight tenths of all colds are mild infections, which run their course until the body has time to produce an antitoxin or antibody to stop their further progress. As this process in reasonably healthy individuals is usually carried out in from four to six days, anything which happens to be given in that time stands a fair chance of getting a reputation as a cure.

"The only sure cure for colds and coughs is to avoid the infections and the foul air of ill-ventilated rooms and buildings in which they breed; to keep the body toned up to fighting pitch, by cold baths and an abundance of fresh air, especially in the bedroom; and if the infection does get a foothold, to assist Nature in her fight against it by rest in the open air, and promoting elimination through the skin, bowels and kidneys.

"In fine, don't tinker with symptoms; look for the cause, and remove it. Don't try to lock the stable door after the horse is stolen, but train your horse to bite strangers. Attack is the best defense. Keep your body at good fighting weight, and you can defy disease. Sunlight, food, fresh air and exercise are the only cure-alls known. Don't worry about disease and what to take when you're sick, but work for health."

### DANDRUFF REMEDY.

The following has been recommended as a cure for dandruff and in incipient baldness. The amount of castor oil may be varied to suit the case:

| | |
|---|---|
| Resorcinol | 4 Gm. |
| Betanaphthol | 2 Gm. |
| Hydrated Chloral | 8 Gm. |
| Tinct. Cantharides | 6 Cc. |
| Tinct. Capsicum | 4 Cc. |
| Castor Oil | 2 to 8 Cc. |
| Cologne Water | 120 Cc. |
| Bay Rum | to make 500 Cc. |

—Merck's Report.

### DIGGERS ALL.

The country chap
Now makes a pass
And digs from earth
His garden sass.

The city man,
By hook or crook,
He digs it from
His pocketbook.

—Boston Globe.

### INCONSIDERATE.

"Yes, I was fined $500 for putting coloring matter in artificial butter."

"Well, didn't you deserve it?"

"Perhaps. But what made me mad was that the judge who imposed the fine had dyed whiskers."—Cleveland Leader.

# General Agriculture

## DODDER IN ALFALFA SEED.

THE appearance of dodder in clover and alfalfa fields is generally most dangerous to the crop. The ordinary operations of mowing, raking, and hauling tend to spread this troublesome parasite, and with every new center of infection the chances of the crop grow less. A recent circular of the New York Experiment Station at Geneva describes the injury resulting from dodder in alfalfa fields as follows:

Dodder is a yellow, thread-like twining weed which is exceedingly troublesome in alfalfa fields. It appears in circular spots 3 to 30 feet or more in diameter. At the center of the spot the alfalfa is killed out, while around the margin the ground is covered with a mat of yellow threads which twine closely about the stems of the alfalfa plants and slowly strangle them. The spots increase in size from year to year. Many fields have been completely ruined by dodder. It is not often injurious to other crops (except red clover), but once established in

Mountain Roadside

an alfalfa field it is very difficult to eradicate without killing the alfalfa.

As dodder is usually introduced with clover and alfalfa seed, the purchase and use of dodder-free seed can not be too strongly urged. Clean seed, however, can not always be secured, and therefore cleaning the seed is often necessary. Frequently neither the purchaser nor the seed dealer knows dodder seed, and consequently in many cses the first proof of its introduction is the appearance in the field of the weed itself. In view of these facts, the New York Station recommends that seed be examineu before it is sown to determine the presence of dodder.

Alfalfa seed is larger than dodder seed and advantage was taken of this fact by the station to perfect a method by which commercial alfalfa seed may be made practically free from dodder and safe to sow. It was found that dodder seeds are readily removed by sifting through a wire sieve having 20 meshes to the inch. Since ready-made sieves of this mesh are not readily obtainable, it is advised to construct a light, wooden frame 12 inches square by 3 inches deep and tack over the bottom of it 20 by 20 mesh steel-wire cloth of No. 34 Washburn & Moen gauge wire. This quantity of wire cloth ought not to cost more than 15 or 20 cents. In case brass or copper wire cloth is used the wire should be No. 32 on the English gauge. It is important that the wire cloth used be exactly 20 by 20 mesh, which may be determined by placing a ruler on the sieve or cloth and counting the number of spaces to the inch. With a sieve of this kind it is estimated that a man can clean from 3 to 7 bushels of alfalfa seed per day. From one-fourth to one-half pound of seed, and no more, should be put into the sieve at a time and vigorously shaken for one-half minute. To make the work uniformly thorough the use of a cup holding not over one-half pound of seed and careful timing of the sifting is recommended. If the seed contains but little dodder one sifting may do, but when much dodder is present, and particularly if it is of the large-seeded kind, two siftings, both made strictly as directed, are advised.

In experimenting with this method it was observed that besides the dodder seeds various other small weed seeds, broken seeds, and dirt, as well as some of the smaller alfalfa seeds, were also removed by sifting. The siftings vary from about one to 5 pounds per bushel according to the original cleanness of the seed and the thoroughness of the sifting. The rejection of the siftings is considered as causing but little if any loss.

## CLIMATE OF ALASKA.

"Alaska has two climatic belts, which may be designated as "the coast region" and "the interior" by which latter term is meant the region north of the coast range. In the coast region the climate is moist and mild in winter and comparatively cold in summer. In the interior the climate is dry, with a comparatively warm and short summer and long winter. In the coast belt the rainfall is heaviest in southeastern Alaska and decreases gradually as we pass westward to the Aleutian Islands, though there are local regions, as for instance, in Prince William Sound, where the rainfall is heavier than in southeastern Alaska. At Sitka, the average yearly precipitation is ninety-six inches, and the mean annual temperature is forty-three degrees, or almost the same as that of Washington, D. C. The winter temperature at Sitka seldom falls to zero, and in summer it frequently does not go above seventy on the warmest days. The short warm summer with an abundance of daylight, produces a rapid growth of every kind of vegetables, and thus it is possible to mature the grain above mentioned.

"Finland approaches Alaska in climatic conditions more closely than any other European country, and it may be of interest to point out some of the agricultural possibilities of that country. Finland lies wholly north of the sixtieth parallel of north latitude. In Alaska, the sixtieth parallel passes through Prince William Sound, and all of southeastern and southwestern Alaska lies south of this latitude. Finland has an area of 148,000 square miles, or about one-fourth of the area of Alaska. One-third of this is timber and tundra, another one-third is covered with inland lakes and only about thirty-four per cent of the whole, or in round numbers about 50,000 square miles is devoted to agriculture. This area supports a population of 3,000,000 people, ninety per cent of whom live in the country and are engaged in agricultural industries. The country produces a considerable surplus of grain for export, chiefly oats, and it is one of the finest dairy countries the world. Butter and cheese are exported in large quantities. Now if it is possible for Finland to support 3,000,000 people north of the sixtieth parallel on one-half of the area that can be made available for agricultural purposes in Alaska, what are the possibilities of Alaska? Alaska has in addition the richest mining belts in the world; the most extensive coast line and richest fisheries of any similar area in the world, and vast virgin forests. It does not seem unreasonable to assume that Alaska is also capable of supporting 5,000,000 people. Nature has provided the resources with a lavish hand. It only requires the industry of men to transform them into wealth."

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Because of range disputes, several homes and barns have been destroyed by incendiaries at Prairie City, Oregon.

---

A small fly has been found in the Imperial Valley which it is thought does much damage to the alfalfa.


**Who Pays for the Error?**

when grains and produce are sold by measure or guess, instead of by weight—usually the honest farmer.

After the hard work of planting, cultivating and harvesting, can you feel that you have made the most of your resources if you do not know exactly how much you have to market—where it came from and how much it cost?

A good scale is just as necessary on the farm as in the elevator or factory. Without it you buy at the seller's weights; estimate the amount of your crops—the gain of your live stock and, perhaps, too often chickens are counted before they are hatched.

**Fairbanks Scales** in your barn-yard will enable you to credit every field with its exact production; you can keep tab on your feeders and know—not only when they are ready, but what they are costing and what they will bring. When your crops are harvested—you know what you have done for the season just as well as if you had the money in the bank.

You need the help of Fairbanks Scales right at the start, when it takes careful planning to make ends meet, and when you find how much they really save, you will wonder how you ever got along without them.

Cut out advertisement and send for complete Scale Catalog No. ZE 1034

**Fairbanks, Morse & Co.** **San Francisco, Los Angeles.**

*Or address the nearest one of our 27 Branch Houses*

THE BEST IN THE WORLD; HAS NO EQUAL

**The Original R.I. Knapp Side-Hill Plow**

Orchard and Vineyard Plow received first premium at State Fair.

If you cannot get our plow send us the name of your dealer and we will see that you are supplied. Has given entire satisfaction for over thirty years. Equally as good for valley as hill sides. We manufacture five sizes—from one-horse orchard and vineyard plow, to the strongest grading plow.

**SAN JOSE, CALIFORNIA** **H. G. KNAPP & SON**

Tell us where you saw this advertisement.

**Vermorels Eclair**

**Liquid Sprayer**

Has diaphragm pump and throws the strongest spray. Write for description.

**Vermorels Liquid and Powder Sprayers** greatly excel all others.

**The H. C. Shaw Co.**

General Agents **Stockton, Cal.**

**PACIFIC VEGETABLE COMPANY**

*Incorporated* *(CALIFORNIA)* *Capital Stock 50,000*

Shippers and buyers of

*CELERY, CAULIFLOWER, CABBAGE, TOMATOES, POTATOES, ONIONS, ETC.*

*W. H. STEWART, President* — *A. W. PHELPS, Vice-Pres. and Treas.* — *B. P. HOAR, Sec'y and Sales Mgr*

*MAIN OFFICES, 625 Central Bldg., Los Angeles* — *GENERAL EASTERN OFFICE 34 Clark St., Chicago* — *Direct Representatives in all principal markets*

**Second Hand Irrigating Plants**

Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

**Western Machinery Company**

**230 Main Street, San Francisco, Cal.**

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Nov. 17, 1909.

### Butter.

The butter market is slow and dull with supply in excess of demand. Quotations exactly as last week.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

Creamery per roll .....67½@70
Eastern Creamery per roll .....67½
Cooking .....26
Ladles .....26@27

### Cheese.

Northern fresh .....19@19½
Domestic Swiss .....23
Imported Swiss .....32

### Eggs and Poultry.

Eggs are quiet on market and while receipts are light the prices remain unchanged, except on storage which are slightly lower.

Paying price f. o. b. L. A. is:

Local candled .....46@50
Case count buying price .....42
Eastern fresh .....35
Storage .....27@30

Dealers pay for live poultry f. o. b. L. A.

Hens per pound .....18@20
Roosters .....9@18
Roasters 3 lbs. and up .....18@19
Turkeys .....20@24
Geese .....10@12
Ducks .....10@12
Squabs .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds .....7¾
Prime steers .....4½
Heifers .....3½@4¼
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.75@4.00
Wethers .....4.50@5.00

### Potatoes.

Wholesale prices are:

Yellow Sweets per ctl. .....1.25@1.35
Burbank local .....85@1.00
Highlands .....1.00@1.25
Salinas .....1.65@1.75
Oregons .....1.40@1.50

### Onions.

Wholesale quotations:

Silverskins local lug .....1.00
Northern Yellow Danvers ...1.25@1.35
Australian Browns per sack 1.25@1.35
Garlic .....7@8
Yellow Globes .....1.25

### Vegetables.

Wholesale quotations:

Artichokes locals .....85
Asparagus, crate .....2.25@2.75
Beets, sk .....80
Beans, string .....4@5
Brussels sprouts per lb. .....8@9
Bell peppers .....5@7
Cabbage, per sack .....1.25
Celery per doz .....50@60
Cucumbers per box .....50@60
Cauliflower per doz .....75@80
Carrots per sk .....80
Corn per box .....40@60
Egg Plant per lb. .....2@4
Green onions per doz bunches..20@25
Hubbard squash .....1@1¼
Summer squash per box .....35@45
Lettuce choice per crate .....1.00@1.10
Leeks .....35@40
Oyster plant .....35@40
Okra per lb. .....8@10
Peas per lb .....5@6
Parsley, per doz. bunches .....15@25
Pumpkins per lb. .....1½
Parsnips .....40
Radishes per doz.....20@25
Rhubarb, No. Strawberry box 175@2,00
Rhubarb, crimson winter .....1.25
Spinach per doz .....17½
Turnips sk .....80
Tomatoes lugs .....40@50

### Citrus Fruits.

Valencias .....3.50
Grapefruit .....2.00@3.50
Lemons .....2.25@3.50
Limes, halves .....1.50@2.00

### Fresh Fruits.

Wholesale prices on the market are:

Bellefleurs .....1.10@1.35
Winesaps .....2.50
Pearmains Red .....1.20@1.50
Jonathans .....2.75
Smith Cider .....1.50
Casabas per crate .....1.70
Cantaloupes Jumbos..... ..2.50@3.00
Christmas melons .....2.00
Figs .....85@1.00
Grapes lug box .....:90@1.25
Persimmons lb. .....8@10
Peaches per box .....1.50
Bartletts .....$2.50@3.00
Quinces per bx. .....1.25
Raspberries .....10
Blackberries .....9
Strawberries .....8@10
Watermelons per lb. .....1½

### Dried Fruits.

Wholesale prices are:

Apricots .....12@15
Evap apples fy per lb .....10@11
Figs box .....1.25
Peaches .....7@8
Pears .....11@12
Plums pitted .....12½
Nectarines .....9@10
Prunes .....4½@10

### Beans Dried.

Wholesale prices are:

Limas per ctl .....4.40@4.50
Pink No. 1 .....4.25@4.35
Black eyes .....4.50
Lady Washington .....4.25@4.50
Small white .....540@5.50
Garvanzas .....4.50.
Lentils .....7.00

### Nuts.

The following walnut prices are not the wholesale, but car lot quotations established by the walnut association.

No. 1 soft shell .....11½
No. 1 hard shell .....11
No. 2 soft shell .....7½
Almonds IXL per lb. .....15@17
Pecans polished .....12½@16
Peanuts Eastern .....7
Peanuts, Cal .....5@5½

### Honey.

Wholesale quotations:

Extracted water white .....7½@8
Extracted light amber .....5½@6
Comb Water White .....16
Comb, white .....15
Beeswax .....25

### Hay.

Buying prices f. o. b. cars L. A. are:

New Barley hay .....10.00@14.50
Alfalfa, local .....12.50@14.00
Alfalfa Imperial .....11.00@13.00
Northern .....12.00@13.50
Wheat hay .....11.00@13.50
Tame oat .....11.00@15.50

### Grain.

Wholesale selling price f. o. b., Los Angeles:

Wheat new per ctl .....1.95@2.00
Kaffir corn .....1.85
Corn .....1.75
Egyptian corn .....1.80
White oats .....1.80
Seed Rye .....2.10
Popcorn .....3.75

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

Cracked corn .....1.80
Cracked wheat .....2.10
Shorts .....1.85
Bran .....1.60
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....1.85
Feed meal .....1.85
Cracked wheat .....2.10
Rolled Barley .....1.60

### HE WHO KNOWS.

1. He who knows not and knows not he knows not, is a fool; shun him.

2. He who knows not and knows he knows not, is simple; teach him.

3. He who knows, and knows not he knows, is asleep; wake him.

4. He who knows and knows that he knows, is wise; follow him.

## San Francisco Markets

SAN FRANCISCO, Nov. 16, 1909.

### Butter.

Butter advanced a half cent on Monday, on extras all other grades remain stationary.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

California extras per lb. .....32
California seconds .....29
Storage extras .....30
Ladles .....25½

### Cheese.

California flats new .....15@19
Cal. Young America fy new ...17@19
Young American Oregon fy .....18½

### Eggs and Poultry.

Eggs have recovered some of their loss of last week and now stand at 53, on extras all other grades same as last week. Market firm.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras .....53
Firsts .....45
Seconds and thirds .....28@30
Storage extras .....31
Hens per doz .....5.00@9.00
Roosters per doz .....4.00@8.00
Fryers per doz. .....5.00@6.00
Broilers .....3.00@4.50
Geese per pair .....1.50@2.50
Ducks .....4.00@9.00
Turkeys .....20@25
Pigeons young .....1.00@3.50

### Live Stock.

San Francisco prices gross weight:

Steers .....3½@4½
Cows and heifers .....2@3½
Hogs .....4½@7½
Calves per lb .....4@5½
Milk lambs .....6
Wethers No. 1 .....4¾@5
Ewes No. 1 .....4@4¼

### Potatoes.

Wholesale market quotations:

River White crates .....55@65
Salinas .....1.15@1.35
Oregons .....85@1.00
Sweets crates .....1.00@1.25

### Vegetables.

Wholesale quotations:

Bell peppers per box .....40@50
Cucumbers per box .....75@1.00
Celery, doz .....40@75
Chili peppers per box .....40@60
Egg plant per box .....60@75
Green peas per lb.....7@8
Okra.....75@90
Rhubarb per box for bay....1.25@1.50
String beans .....2@3½
Tomatoes .....50@1.00
Wax beans .....4@5
Lima beans .....7@8
Garlic .....4½@5

### Onions.

Yellow onions .....70@80

### Citrus Fruits.

New Navels .....2.50@3.00
Tangerines .....1.00@1.75
Valencias .....3.00@3.50
Grapefruit .....1.00@3.25
Lemons .....1.50@4.50
Limes .....5.00@6.00

### Fresh Fruits.

Bellflowers .....1.00@1.25
Newtowns .....1.25@1.75
Figs blk box .....50@75
Isabellas .....1.00@1.25
Other varieties .....50@65
Peaches per lug box.....50@1.00
Pears, winter Nells.....75@1.50
Pears, cooking, box .....75@1.00
Persimmons .....75@1.00
Pomegranates .....50@1.00
Quinces .....50@1.00
Huckleberries per lb. .....4@9
Raspberries per chest .....8.00@11.00
Strawberries, chest .....4.00@5.00

### Dried Fruits.

Santa Clara prunes .....2⅜@3
1 cent premium for larger sizes.
Apricots per lb. Royal .....10½@12½
Peaches—Choice ..5½: Fancy.....7½
Apples evap .....8@9
Pears .....6@9¼
Figs .....3¼@5
Nectarines .....5@6
Plums .....7@8

### Raisins.

RAISINS—1909 crop, f. o. b.: Fancy Seeded, 16-oz. cartons, 5@5¼c; do, 12-oz, 4½c; do. choice, 16-oz., 4½@4¾c; choice, 12-oz., 4c; 50-lb. bxs. Loose Muscatels, Standard, 4-crown, 4@4¼c; 3-crown, 3¼@3½c; 2-crown, 2½@3c; Seedless Thompson, unbleached, 3c; do, bleached, 7@7½c; Sultanas, unbleached, 2¼c; do, bleached, 4@4½c; Muscatels, unbleached, 2¼c; Dried Grapes, nominal; London Layers, clusters, 2-crown, 85@90c; 3-crown, 90@$1; 4-crown, $1.30@1.50; 5-crown, $1.75@2; 6-crown, $2@2.50.

### Nuts.

Walnuts soft shell No. 1 .....13@13½
Walnuts S. S. No. 2 .....8@8½
Walnuts, hard shell .....13
Almonds '09 N. P. U .....13
Almonds '09 nonp .....14½
Almonds I X L .....14
Pecans .....15@17
Chestnuts .....14@15
Peanuts .....5@6

### Beans Dried.

Limas .....4.25
Pink .....3.70@3.80
Small white .....4.85@4.95
Large white .....3.50@3.60
Black eyes .....4.00@4.25
Red Kidneys .....5.50@6.00
Garvanzas .....3.00@3.25
Bayo .....5.00@5.25
Horse beans .....2.00
Cranberry .....4.75

### Hops.

Hops 1909 crop .....21@26
Hops 1908 crop .....16@19
Old .....8@12

### Honey.

White comb .....14@15
Lighht Amber .....10@12
Extracted W W .....7½
Extracted light amber .....6½@7
Beeswax per lb. .....25@29

### Hay.

Scott, Magner & Miller say:

Arrivals of hay for the past week have been 2344 tons, as against 2625 tons for the week previous, showing a slight falling off in receipts. Contrary to last week's arrivals, two-thirds of this hay has arrived by railroad. The lack of wind on the rivers has caused delay in a large fleet of boats which are out after hay, but this fleet are commencing to arrive, several of them coming in today, and we look for large receipts by water the coming week.

The country demand is almost nominal; nearly all sections of the state having had very nice warm rains during the past week, and fair prospect for good pasturage is in sight. Sections of the country where we were shipping hay weekly last season at this time, are now writing asking what we can give them for their hay, showing that they have hay to sell where last year they were importing it.

We are still confronted with the railroad transportation problem, and are only able to secure cars for shipment of hay by ordering them under the Reciprocal Demurrage Act passed by the last Legislature, and even under these conditions the railroads are taking all the time allowed them under the Act after orders are placed before delivering the cars to load.

Adfalfa is in lighter supply, and moving off a little more freely. Straw is also in light supply, but the demand for same is very light. We quote the general range of prices on today's market as follows:

This week's quotations are:

Choice wheat hay .....18.50@19.50
No. 1 wheat or wheat & oat 16.50@17.50
No. 2 wheat or wheat & oat 14.00@15.00
Choice tame oat .....16.00@17.50
Other tame oats .....13.00@15.00
New crop wild .....10.00@14.00
Stock hay .....8.00@9.00
Alfalfa .....10.00@13.00
Straw .....55@65

### Grain.

| | |
|---|---|
| Wheat No. 1 | 1.77½ @ 1.82½ |
| Barley No. 1 | 1.40 @ 1.47½ |
| Oats white | 1.57½ @ 1.65 |
| Oats gray | 1.60 @ 1.65 |
| Rye new crop | 1.85 @ 2.00 |
| Cal sm round corn | 1.75 @ 1.80 |
| Alfalfa seed | 16 @ 18 |
| Mustard brown | 3¾ @ 4½ |
| Millet | 2½ @ 3 |
| Flaxseed | 4 |
| Broom corn seed per ton | 23.50 |

### Feed Stuff.

| | |
|---|---|
| Bran per ton | 29.00 @ 30.00 |
| Feed cornmeal per ton | 37.00 @ 38.00 |
| Cracked corn per ton | 38.00 @ 39.00 |
| Ground barley per ton | 31.00 @ 32.00 |
| Rolled oats per ton | 36.00 @ 37.50 |
| Oil cake per ton | 38.50 @ 40.00 |
| Cocoanut cake per ton | 25.00 |
| Middlings | 36.00 @ 37.50 |
| Mixed feed per ton | 28.00 @ 33.00 |
| Shorts | 31.50 @ 33.00 |

## Citrus Market

LOS ANGELES, Nov. 17, 1900.

Navel oranges which have arrived in the eastern markets are now selling fairly well. There has been some complaint of green fruit, and the market is not so strong as at the first offerings. This fruit is coming in contact with large shipments of Floridas which are now coming in very good condition. Last shipments of Valencias are cleaning up and are holding up good prices. All shipments of navels have been from either the San Joaquin or Sacramento Valleys.

Lemons are holding up very strong and with limited receipts from the Mediterranean, it is thought that winter shipments will command a good price.

**SHIPMENTS.**

Total shipments of citrus fruits since Nov. 1st, 249 cars of which 132 were oranges and 117 lemons. To same date last season 206 cars of which 36 were oranges and 170 lemons.

This report does not include Tulare and Fresno counties and northern California shipments.

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NEW YORK, Nov. 11.—Five cars of Valencias sold. Market firm on good stock. Weather clear and favorable.

| VALENCIAS— | Avge. |
|---|---|
| Old Mission, Chapman | $5.25 |
| Golden Eagle, Chapman | 3.45 |
| Piute, Randolph Fruit Co. | 2.60 |
| San Rafael, H. W. Bailey | 3.40 |
| San Miguel | 2.55 |
| Sceptre, S. S. Exchange | 3.50 |
| Planet, S. S. Exchange | 3.05 |
| Blue C, Covina Exchange | 3.10 |
| Cougar, Covina Exchange | 2.10 |

BOSTON, Nov. 11.—Two cars sold. Weather favorable. Market unchanged.

| LEMONS— | Avge. |
|---|---|
| Rey, S. T., Fernando | 5.10 |
| Tunnel, S. T., Fernando | 4.65 |
| VALENCIAS— | Avge. |
| Pointer, A. C. G., Azusa | 3.55 |


# Your Eastern Trip

SOUTHERN PACIFIC

May be arranged so that you may travel by way of

**New Orleans** and the Sunset Route

**San Francisco** and the Ogden Route

**Portland** and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.

Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

**Southern Pacific**


NEW YORK, Nov. 15.—Six cars Valencias, two lemons, one mixed car oranges sold. Market very steady, advancing. Firm on lemons. Cloudy.

| VALENCIAS— | Avge. |
|---|---|
| Sceptre, S. S. Exchange | 3.40 |
| Planet, S. S. Exchange | 3.05 |
| Blue C, Covina Exchange | 3.45 |
| Old Mission, Chapman | 5.25 |
| Old Mission, Chapman | 4.45 |
| Golden Eagle, Chapman | 3.45 |
| Purity, Tustin P. Co. | 3.30 |
| Old Oak, Tustin P. Co. | 2.80 |
| Lucky, Tustin P. Co. | 2.35 |
| West Highland, Cleghorn Bros. | 2.05 |
| Stock Label, Cleghorn Bros. | 1.55 |
| Old Mission, Chapman | 5.45 |
| Golden Eagle, Chapman | 3.50 |
| Premium, Benchley F. Co. | 3.35 |
| Superior, Benchley Fruit Co. | 2.75 |
| LEMONS— | |
| Whittier, S. T. Exchange | 5.80 |
| Pico, S. T. Exchange | 5.40 |
| O. K. | 5.25 |
| do choice | 4.90 |

ST. LOUIS, Nov. 15.—Cool; market strong on lemons, two cars sold.

| LEMONS— | Avge. |
|---|---|
| El Azar, A. C. G., Azusa | 4.00 |
| Green Crown, A. C. G., Azusa | 4.35 |
| Red Shield, A. C. G., Azusa | 4.60 |
| VALENCIAS— | |
| Segunda, A. H., Pachappa | 2.30 |
| Hobo | 1.80 |

CINCINNATI, Nov. 15.—Cool. Steady. Two cars lemons and six cars Florida oranges sold. Florida Brights, $1.65 to $2.35; Russets, $1.85 to $2.30.

| LEMONS— | |
|---|---|
| Pet, S. A. Exchange | 4.20 |
| Arab | 4.10 |
| Greyhound | 3.75 |
| Duck | 3.10 |
| White Cross, Limoneira Co. | 3.80 |

CLEVELAND, Nov. 15.—One car lemons, one mixed car sold. Market higher on lemons.

| LEMONS— | Avge. |
|---|---|
| Las Fuentes, Crocker-Sperry, S. | 3.55 |
| Planet, S. S., Orange | 4.45 |
| Montecito, Crocker-Sperry | 2.40 |
| Sunset, S. S., Orange | 3.20 |
| Limoneira | 3.45 |
| VALENCIAS— | |
| Searchlight, S. S., Orange | 2.60 |
| Sunset | 2.45 |

PITTSBURG, Nov. 15.—Three cars sold. Market firm on good fruit. Prices low on account of quality. Market very strong on lemons. Cool.

| LEMONS— | Avge. |
|---|---|
| Watchumna, T. C. C. Ex. Lem. | 4.40 |
| Justasgood | 3.90 |
| VALENCIAS— | |
| Coyote, O. K. Exchange | 3.10 |
| Owl | 1.50 |

BOSTON, Nov. 15.—Four cars sold. Weather favorable. Market very strong.

| VALENCIAS— | Avge. |
|---|---|
| Pointer, A. C. G., Azusa | 3.45 |
| Planet, S. S., Orange | 3.10 |
| Lucky, Tustin P. Co. | 2.95 |
| Sceptre, S. S., Orange | 3.75 |
| Honestpack, Tustin P. Co. | 3.35 |
| LEMONS— | |
| Pet, S. A. Exchange | 5.20 |
| Greyhound, S. A. Exchange | 4.85 |

PHILADELPHIA, Nov. 15.—One car of Valencias, one car lemons sold; also 7,000 boxes Florida oranges, $1.15 to $2.50; average, $1.55; grapefruit, $2.45 to 3.65.

| VALENCIAS— | Avge. |
|---|---|
| Old Oak, Tustin P. Co. | $2.35 |
| Lucky | 2.05 |
| LEMONS— | |
| Watchumna, T. C. C. Ex., Lem. | 4.75 |
| Tulare | 4.50 |

NEW YORK, Nov. 16.—Five cars oranges and one car lemons sold. Market very steady on oranges and lemons. Cloudy.

| VALENCIAS— | Avge. |
|---|---|
| Mayflower fy, R. J. Richardson | 5.50 |
| Pilgrim, R. J. Richardson | 4.10 |
| Buane Sd, R. J. Richardson | 3.35 |
| Premium Or, Benchley F. Co | 3.45 |
| Superior Ch, Benchley F. Co. | 2.80 |
| Cal. Orange Riv. Ex. | 1.65 |
| Old Mission fy, Chapman | 5.40 |
| Old Mission Ch, Chapman | 4.50 |
| Golden Eagle Sd, Chapman | 3.55 |
| Trall St. Ex. | 3.30 |
| W. Highland Or., Cleghorn Bros. | 2.35 |
| Stock Label, Cleghorn Bros | 1.60 |
| Stag A. C. G. Ex. | 4.35 |
| Pointer A. C. G. Ex. | 3.15 |

LEMONS—Pet S. A. Ex., $5.65; Greyhound S. A. Ex., $5.00.

BOSTON, Nov. 16.—Three cars sold. Weather favorable. Market is easier.

| VALENCIAS— | |
|---|---|
| Lincoln, A. H., Casa Blanca | 2.60 |
| Planet, S. S., Orange | 3.05 |
| Old Oak Ch., Tustin P. Co. | 3.00 |
| Scepter, S. S., Orange | 3.60 |
| Purity Xc., Tustin P. Co. | 3.30 |

## Business Notes

**SPRAYING.**

Spraying deciduous fruit trees has become an absolute necessity with the California fruit grower. At various conventions held by fruit growers in this state, it has been made manifest that the trees that were sprayed at the right time with lime and sulphur solution have borne fruit free from worms, whereas trees not sprayed have borne fruit that was condemned in the north-western markets and in many cases a total loss.

The very small cost of spraying a tree makes it no excuse for any grower to have scaly or wormy fruit when he can just as well have first-class fruit. The celebrated preparation, Rex Lime & Sulphur Solution, manufactured by the California Rex Spray Company at Benicia, California, has been very extensively and successfully used, and is on the market at a price that the farmer cannot afford to lose the time in making an article that at best only approximates in strength and efficiency the prepared spray. The thoughtful orchardist should see to it that his orchard is sprayed, and well sprayed at the proper time.

**TURKEY BOOK.**

A new and enlarged edition of the book Turkeys—Their Care and Management has just been completed by the Reliable Poultry Journal Pub. Co. The new book has been revised to meet the standard requirements for Turkeys and anticipates the American Standard of Perfection which is to be published in 1910.

Some of the subjects dealt with in this new book are: How the Turkey Got its Name; Description of the Seven Standard Varieties, The Care of Breeding Stock, Mating the Breeders, Hatching the Eggs, Coops and Houses for Turkeys and Poults, and Remedies for Turkey Diseases. Well known breeders have contributed special articles on their favorite varieties including the Bronze, White Holland, Narragansett and Wild Turkeys, with special illustrations. In these they tell why they prefer the variety and how it is handled to secure best results. The price is 75c.

**NEW 1910 FREE CATALOG.**

The Pioneer Hatchery Co., 112 East 8th, Los Angeles, now have their new 32-page illustrated catalogue in the press. This book illustrates and describes all of the baby chicks, ducklings, turkeys and geese sold by them. Just send your name and mention this paper, and the book will come.

**READY ROOFING.**

Genasco Ready Roofing is a great fire-resister. Sparks and embers that drop on it extinguish themselves without injury to the roofing. Genasco is made of Trinidad Lake asphalt. Besides resisting fire, it also resists an even greater enemy—the weather. It withstands rain, air, sun, heat, cold, and will not crack, break, or rot. It is so easy to lay that you or any intelligent farm hand can do it. "The Good Roof Guide Book" is a valuable manual issued and sent without charge by the Barber Asphalt Paving Company, Philadelphia.

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John S. Armstrong has a faculty of producing beautiful and striking catalogues. We thought that his last year's production had reached the limit, but we must confess that the 1910 edition beats any of the former ones. The cover is especially striking in its gold and red and black. The book is composed of 56 pages and cover, and is full of illustrations and descriptions of fruits handled by this large nursery. The list of fruits is most valuable in this, that where different varieties are given, the time of ripening is also stated, so that one may choose his family orchard fruits according to season. The Kruckeberg Press did the work and it is entitled to much credit for a fine piece of work.


**Wireless Telegraphy** Now is the time to engage in the study of this new science. 1,000 operators wanted to fill positions created by U.S. government action. Salary of trained operators ranges from $15 to $40 per week.

**The Wireless Institute of California** is the best equipped wireless school in the world for teaching this science. We are located so that our high power station is in daily conversations with all stations on the Pacific Coast. R. R. Commercial School of Telegraphy owned and operated in connection with us. We can qualify you for a position anywhere. Young men and women write for descriptive circulars.

**WIRELESS INSTITUTE OF TELEGRAPHY**
Official Training School for Wireless Telegraph Companies
Central Trust Bldg., Van Ness Ave. cor. Golden Gate
SAN FRANCISCO, CAL.

The Brownsberger **Commercial College**

**953-7 W. 7th St., Los Angeles, Cal.**

This popular school has a magnificent home of its own, ideally located, surrounded by lawns and recreation grounds. Thorough courses, fine equipment, faculty of specialists as instructors. Send for illustrated, descriptive catalog. Good positions for graduates.

**F. Brownsberger, President**

**CAPITAL CITY COMMERCIAL COLLEGE**
1015 10TH ST., SACRAMENTO, CAL.
One Year $75. Send for Circular.
Employment possibilities very strong in Sacramento.

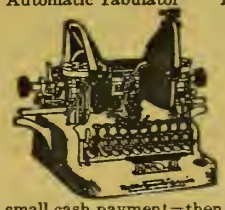
# A $100 Typewriter for 17 Cents a Day!

Please read the headline over again. Then its tremendous significance will dawn upon you.

An Oliver Typewriter—the standard visible writer—the $100 machine—the most highly perfected typewriter on the market—yours for 17 cents a day!

The typewriter whose conquest of the commercial world is a matter of business history—yours for 17 cents a day!

The typewriter that is equipped with scores of such conveniences as "The Balance Shift"—"The Ruling Device"—"The Double Release"—The Locomotive Base"—"The Automatic Spacer"—The Automatic Tabulator"—"The Disappearing Indicator"—"The Adjustable Paper Fingers"—"The Scientific Condensed Keyboard."



**Yours for 17 Cents a Day!**

We announced this new sales plan recently, just to feel the pulse of the people. Simply a small cash payment—then 17 cents a day. That is the plan in a nutshell.

The result has been such a deluge of applications for machines that we are simply astounded.

The demand comes from people of all classes, all ages, all occupations.

The majority of inquiries has come from people of known financial standing who were attracted by the novelty of the proposition. An impressive demonstration of the immense popularity of the Oliver Typewriter.

A startling confirmation of our belief that the Era of Universal Typewriting is at hand.

**A Quarter of a Million People are Making Money With**

The OLIVER Typewriter

**The Standard Visible Writer**

The Oliver Typewriter is a money-maker, right from the word "go!" So easy to run that beginners soon get in the "expert" class. Earn as you learn. Let the machine pay the 17 cents a day—and all above that is yours.

Wherever you are, there's work to be done and money to be made by using the Oliver. The business world is calling for Oliver operators. There are not enough to supply the demand. Their salaries are considerably above those of many classes of workers.

**"An Oliver Typewriter in Every Home!"**

That is our battle cry today. We have made the Oliver supreme in usefulness and absolutely indispensable in business. Now comes the conquest of the home.

The simplicity and strength of the Oliver fit it for family use. It is becoming an important factor in the home training of young people. An educator as well as a money maker.

Our new selling plan puts the Oliver on the threshold of every home in America. Will you close the door of your home or office on this remarkable Oliver opportunity?

Write for further details of our easy offer and a free copy of the new Oliver catalog. Address

**The Oliver Typewriter Company**
257 California St. San Francisco, Cal.

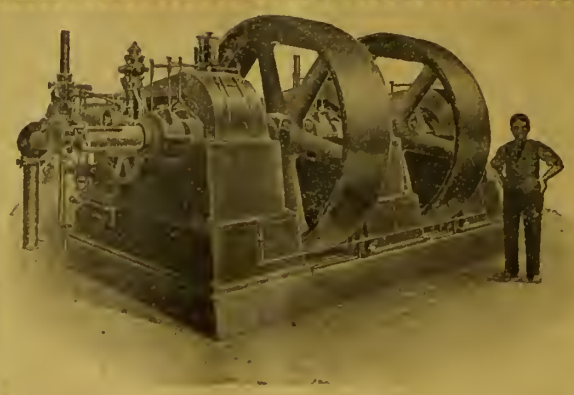
# "Without a Peer"

says one of our customers, writing regarding his WESTERN engine. Extract from his letter is given below:

"It pleases me greatly to be able to say that the engine recently purchased of you has more than met our highest expectations. Of its kind, it is my belief that it is **Without a Peer** in all the West.

In the purchase of the engine I carefully looked over the market, had seen every high powered combustion in the State, had given every argument due weight, had fully considered costs of other powers—both as to first cost and cost of operation—and now after a good test stand ready to say that I do not think we have made a mistake in securing your engine."

The engine referred to is of the size and type shown in cut, and is used for pumping water near San Francisco, Cal.



250 H. P. Western Engine

## Western Gas Engine Company

Builders of Gas and Distillate Engines and Hoists. Engineers and Constructors of Power Plants of Every Size, for Every Purpose.
Sole Manufacturers of the Nix-Frost Crude Oil Suction Gas Producer (Patented)
The Cheapest Power on Earth.

**WORKS & MAIN OFFICE:**
**Los Angeles, Cal.**

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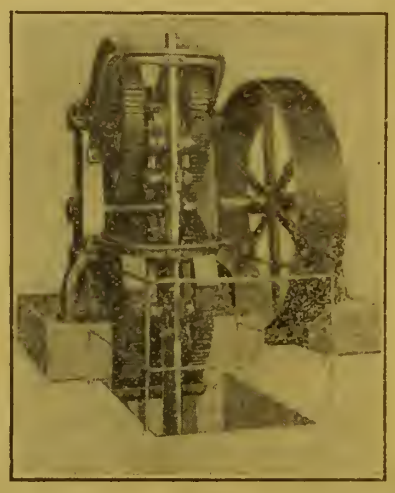
# The Smooth Running, Noiseless Pomona Deep Well Pump

It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

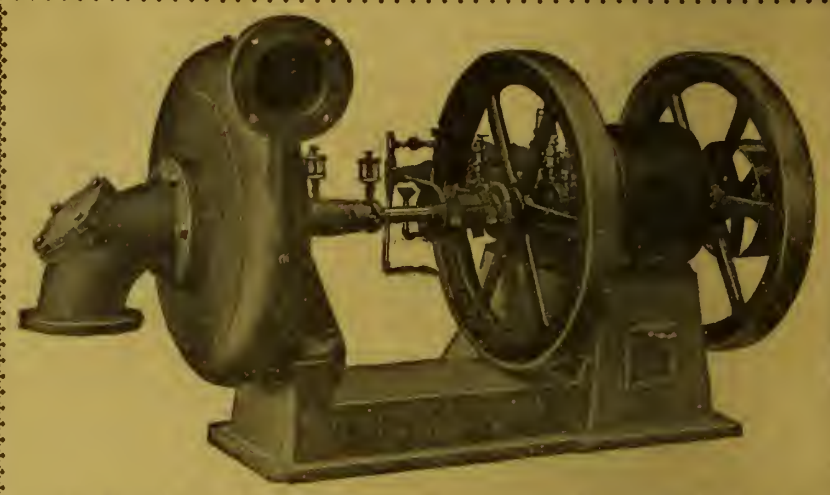
This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.



## POMONA MANUFACTURING CO.
**POMONA, CALIFORNIA**



## BYRON JACKSON IRON WORKS

CENTRIFUGAL PUMP DIRECT, CONNECTED TO GASOLINE ENGINE. WRITE FOR BULLETIN 32.

**SAN FRANCISCO** 351-355 Market Street
**LOS ANGELES** 212 N. Los Angeles St.
**SPOKANE, WASH.**
**SEATTLE, WASH.**

# All Soils Alike to Wood Pipe

The heaviest adobe, the most corrosive alkali, the lightest sand; all alike where Wood Pipe is used.

**It Resists Them All**

Wood Saturated. Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High factor of Safety in Binding—Can't Leak.

Prices, specifications, hydraulic data and general information gladly furnished upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

**NATIONAL WOOD PIPE COMPANY**
404 Equitable Savings Bank Building
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318 Market Street, SAN FRANCISCO
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## *Not too Heavy*
## *Not too Light*
## *But Just Right*

Send for Bulletin No. 12.

## *COMMERCIAL ENGINE CO.*
***951-955 No. Main St., Los Angeles, Cal.***

## More Water! Less Power!
## Longer Life! Less Money!

The American Pump has come to stay because every man that is using one is boosting for it. Get our prices and our guarantee before placing orders for irrigating plants. Send us your name and we will send you some interesting catalogs.

**HENSHAW, BULKLEY & CO.**
**262-264 South Los Angeles St., Los Angeles Cal.**

From photograph showing amount of

**Ten-Inch Pipe**

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

**"K T" Moulds**

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

**THE KELLAR-THOMASON MFG. CO., Covina, Cal**

# *NITRATE OF SODA*

We are prepared to furnish Nitrate of Soda at the lowest market price, and will be pleased to quote prices and furnish literature to any one interested, on application. Advise us what crops you are interested in.

**NITRATE AGENCIES COMPANY**
W. S. SPARR, Agent, 321 Stimson Block, Los Angeles

# *SECOND HAND PIPE*

We will sell you pipe that can be used for any purpose. ***Satisfaction guaranteed*** or money returned. We handle all sizes of standard pipe and casing. Shipments made on same day as order is received. Price of pipe is low now. Write for our prices.

***Pacific Pipe Company***
***S. W. Corner Howard and Main Streets, San Francisco, California***

UNIVERSITY OF CALIFORNIA


# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles November 25, 1909 San Francisco


## Reservoir Sites of Turlock-Modesto Irrigation District

Scenes of the Great Irrigation Scheme in Stanislaus County, Taken by the Staff of the Turlock Journal and Used by Courtesy of That Paper

TUOLUMNE MEADOWS RESERVOIR SITE.

The dam will be erected to the left of the large granite hill shown in foreground of picture.

ANOTHER VIEW OF TUOLUMNE MEADOWS.

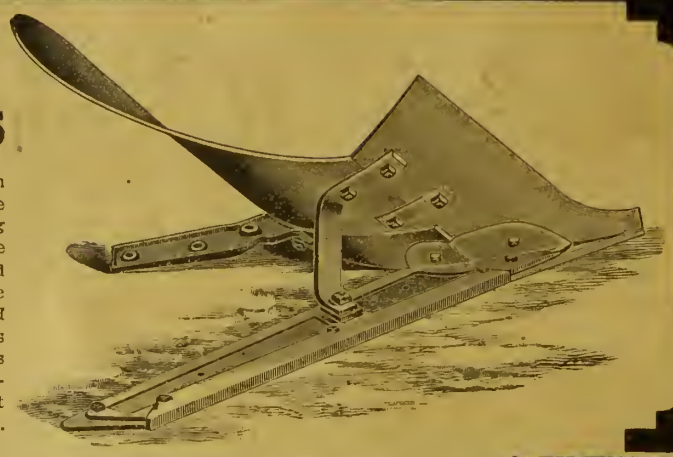
This level, grassy expanse with mountains encircling, makes this an ideal site.

POOPENAUT VALLEY RESERVOIR.

POOPENAUT RESERVOIR DAM SITE.

# EVERYTHING FOR THE RANCHER.

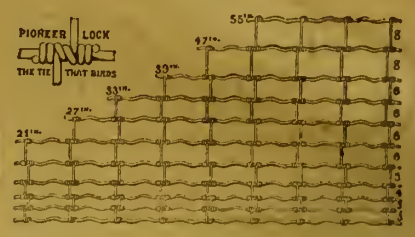
## Syracuse Chilled Plows



Mr. Rancher, look at the illustration in this advertisement of the way the bottom of a Syracuse Steel Walking Plow is constructed. Then if you are interested write for 80-page illustrated catalogue of Syracuse plows, catalogue No. 29. We will promptly forward catalogue on application. These plows are for sale by the leading dealers throughout the country. If your dealer does not carry them write us direct and we will name you delivered price.

QUALITY ARNOTT GUARANTEED — ARNOTT & CO. INC. 112-118 S° LOS ANGELES ST., LOS ANGELES, CALIF. — QUALITY ARNOTT GUARANTEED

**Kokomo** Hog Field Poultry **Fence**




The Standard of all makes. Square and Diamond Mesh Fences for all purposes. Made of heavy, non-rust, self-regulating steel wires. Absolutely hog tight and stock proof. Write us for catalog and prices.

**CALIFORNIA ANCHOR FENCE CO.**
*Main & Market Sts., Stockton, Cal.*

**VENADERA HERD**
**Registered A. J. C. C. Jerseys**
St. Lambert and Flying Fox Blood. Margery Golden's Fox heads the Herd. Young stock for sale. **GUY H. MILLER, Prop., R. 3, Modesto, Cal.**


## Report of the Condition of

# The First National Bank of Los Angeles

### At the Close of Business, November 16th, 1909

**RESOURCES**

| | | |
|---|---|---|
| Loans and Discounts | | $11,161,354.85 |
| Overdrafts, secured and unsecured | | 30,911.41 |
| U. S. Bonds to secure circulation | | 1,250,000.00 |
| U. S. Bonds to secure U. S. Deposits | | 305,000.00 |
| U. S. Bonds on hand | | 55,000.00 |
| Premiums on U. S. Bonds | | None |
| Bonds, securities, etc. (Bonds only) | | 854,600.00 |
| Due from National Banks (not reserve agents) | $1,247,713.11 | |
| Due from State Banks and Bankers | 322,364.97 | |
| Due from Approved Reserve Agents | 1,010,761.11 | |
| Checks and Other Cash Items | 120,979.26 | |
| Exchange for Clearing House | 255,966.51 | |
| Notes of Other National Banks | 85.001.00 | |
| Fractional Paper Currency, Nickels and Cents | 7,882.45 | |
| Lawful Money Reserve in Bank, viz: | | |
| Specie | 2,158,296.00 | |
| Legal Tender Notes | 353,200.00 | |
| **Cash and Sight Exchange** | | 5,562,164.41 |
| Redemption Fund with U. S. Treasurer | | 62,500.00 |
| Total | | $19,281,530,67 |

**LIABILITIES**

| | | |
|---|---|---|
| Capital Stock Paid In | | $ 1,250,000.00 |
| Surplus Fund | | 250,000.00 |
| Undivided Profits, Less Expenses and Taxes Paid | | $1,460,617.25 |
| National Bank Notes Outstanding | | 918.497.50 |
| Due to Other National Banks | $1,288,472.09 | |
| Due to State Banks and Bankers | 1,094,053.39 | |
| Due to Trust and Savings Banks | 828,452.02 | |
| Dividends Unpaid | 1,045.00 | |
| Individual Deposits Subject to Check | 10,978,526.30 | |
| Demand Certificates of Deposit | 298,953.72 | |
| Certified Checks | 48,906.60 | |
| Cashier's Checks Outstanding | 555,684.44 | |
| U. S. Deposits | 300,372.04 | |
| Letters of Credit | 7,950.32 | |
| **Total Deposits** | | 15,402,415.92 |
| Total | | $19,281,530,67 |

No Real Estate. No Furniture and Fixtures. No Premiums on U. S. Bonds.

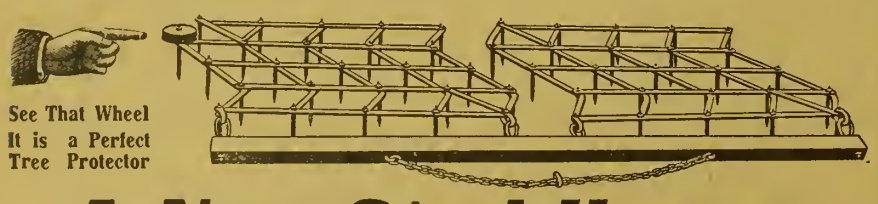
STATE OF CALIFORNIA, County of Los Angeles. ss.

I, W. T. S. Hammond, Cashier of the above named bank, do solemnly swear that the above statement is true to the best of my knowledge and belief.

W. T. S. HAMMOND, Cashier.

Subscribed and sworn to before me this 18th day of November, 1909.
W. N. HAMAKER, Notary Public.

Correct—Attest:
J. M. ELLIOTT, JOHN S. CRAVENS, H. JEVNE,
G. E. BITTINGER, J. O. KOEPFLI, E. J. MARSHALL,
J. C. DRAKE, F. Q. STORY, DAN MURPHY,
M. H. FLINT, JOHN B. MILLER, C. W. GATES,
W. J. TRASK,
} Directors.

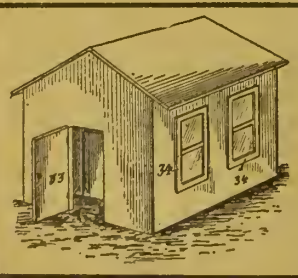
See That Wheel
It is a Perfect
Tree Protector

## A New Steel Harrow

(PAT. MARCH 31, 1908)

Unequalled for field or orchard harrowing. Extra strong, well made and will outlast a half-dozen of the old style harrows. It has a perfect tree protector. Made in various sizes. Satisfaction absolutely guaranteed. Write for circular and prices to

**E. SWOPE, Manufacturer, MORGANHILL, CAL.**



## Anderson's Iceless Cooler

**Did You Read**

**News Article** headed **A "Wonderful Discovery in Refrigerating"** that appeared in Cultivator, issue of Nov. 4th? It explained all about the Refrigerator without ice or chemicals, that is practically run with no expense. Write for full particulars or send 50cts. for diagrams and specifications.

**Nelson F. Anderson**
**4531 Staunton Ave. Los Angeles, Cal**

## All Soils Alike to Wood Pipe

The heaviest adobe, the most corrosive alkali, the lightest sand; all alike where Wood Pipe is used.

**It Resists Them All**

Wood Saturated. Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High factor of Safety in Binding—Can't Leak.

Prices, specifications, hydraulic data and general information gladly furnished upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

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## SEED GRAIN

**BLACK AND RED OATS, WHEAT, BARLEY. BEAN SCREENINGS**

for Stock and Poultry. For sale at lowest market rates. **BRAY BROTHERS** Buyers of Grain and Beans. Members of Merchants Exchange **220 Clay St., San Francisco**
Established in 1855. Correspondence Invited

# California Cultivator

Vol. XXXIII—No. 22 Los Angeles, California, Thursday, November 25, 1909 Subscription $1 a Year

# Good Opportunities for Dairying in California

From an Address Delivered by Geo. A. Smith, of Corcoran, at the California Creamery Operators' Convention at Porterville, November 18

THE dairy business in California in the last few years has made wonderful strides of progress. It has grown by leaps and bounds and is rapidly being recognized as one of the important branches of agriculture, if not the most important in our great state, and it must continue so if it keeps pace with the rapid development of our great country, but it seems as yet far from catching up with the demands of an ever increasing population. The dairy business today is generally recognized both East and West as the safest, surest and best paying branch of agriculture, and its results are almost mathematical. If this be true, what is the opportunity for dairying in California?

The Modesto-Turlock Irrigation project, together with others of a similar character in this and other states has demonstrated the cheapness and the practicability of storing water in the mountains and has made this system so popular that other systems of a like nature are now under consideration. In the near future, water by this system will be provided for large areas of worn out grain lands, which have become almost non-productive through the continued cropping for grain through a long series of years, forcing their owners to abandon grain farming and to cut up into small subdivisions immense tracts of land, which with a necessary and adequate water supply available is soon sold to settlers. When this worn out land is irrigated and seeded to alfalfa its productive value is increased many fold and affords great opportunity for profitable dairying so that localities and towns almost abandoned are made productive. progressive, thriving and prosperous.

In many localities in this state, enormous tracts of land are being supplied with water diverted from streams and made to flow by gravity through canals and ditches and distributed over land of from fair to good quality, which lands are made highly productive alfalfa fields. There the dairy business will be found flourishing and increasing in proportion to the number of settlers that are taking advantage of these favorable conditions. Alfalfa means green feed all the year and it also means that one acre will provide fee for one animal. A gravity water supply from streams is the cheapest system of irrigation and the land reclaimed by this system is usually good and especially well adapted to the dairy business, and under these most favorable conditions splendid opportunity is afforded for dairying. A number of important systems of this nature are in successful use in this state. Among the most prominent is the system in use in the Imperial Valley. Others less extensive are under consideration at the present time, which will no doubt afford a splendid opportunity to a large number of dairymen to enter this profitable business or to increase the business if already in it.

In many places where it is not practical to secure water from the mountains or streams it is possible to sink wells, which provided with a pumping plant furnished with gasoline or electric power, while more expensive to install and operate furnish an adequate, permanent and independent source of water supply at a cost which leaves a satisfactory profit to the owner. A plant of this kind makes the production of from six to eight good crops of alfalfa per year certain, and insures against the total failure in a dry year of valuable crops and prevents the loss of years of toil. The extensive use of pumps and engines among the farmers and dairymen has led to the perfecting of these machines and lowering the cost to within reach of the average dairyman. The demand for power to operate pumping plants has also led to the development of electrical energy from water power in the mountains, so that dairymen can now secure power from the power companies at a minimum cost, largely eliminating the cost for attendance and repairs. Being so very convenient this power has become quite popular for pumping plants. The improved equipment and the greater skill in sinking and developing pumping wells have made the development of water practical where heretofore it was thought quite impossible, and is affording excellent opportunity for profitable dairying where none existed on account of the inability to produce cow feed.

In other localities where it is not practical or possible to secure water from the mountains, streams or pumping plants, the development of water by deep boring, while more expensive to install than the three former systems mentioned, the cost of maintenance and operation is less than in any other system and where artesian water can be secured in sufficient quantities, this system is the best, most independent and satisfactory as these artesian wells are nearly always found in localities where the land is exceptionally good, where we find the most favorable and the best opportunity for dairying.

A more economical and scientific use of water is being practised so that the volume of water now available is sufficient to irrigate and make productive a larger area, enabling those already engaged in the dairy business to pursue it more extensively and providing water for land where none has been previously used, thereby affording a greater opportunity for dairying.

The climatic advantages of California for the dairy business are simply marvelous. Our winter is one continual springtime—no snow, no wintery winds, no blizzards, no ice and sleet to decrease the production and make warm and expensive barns necessary. On the contrary, in the winter our dairy cattle are grazing on green pastures of alfalfa and natural grasses. The dairy cattle of the irrigated sections are never without green feed every day in the year. The absence of humidity in the atmosphere robs the summer heat of its oppressiveness which is so apparent in so many parts of the East.

In our haying season, rain is unknown so that the gathering of crop after crop is attended without loss from this source. These ideal climatic conditions no doubt have a great deal to do with the health of the dairy cattle of this state. With our mild winters, our everlasting growing season, combined with irrigation which makes our soil highly productive, and with nature on the side of the dairyman, it is truly the dairyman's opportunity.

The leading dairy sections of California are within easy reach of one or the other of the two great consuming points of the state, namely, San Francisco and Los Angeles, whose dairy markets are the highest in the United States. This together with its excellent transportation facilities makes dairying a favorite enterprise with people of both large and small means, who invariably find the returns from this investment most satisfactory.

The average price of dairy products for the last twelve months has surpassed our most sanguine expectations. We can not reasonably expect to receive any higher prices. Therefore the only way left for us to obtain greater profits is to improve our herds, thereby securing a greater average production per cow and consequently a greater profit. In fact the high price for dairy products is causing the thinking, progressive dairymen of the state to improve the quality of their stock by the introduction of improved, registered dairy bulls. In many herds the yield per cow has been increased from 25 to 50 per cent by their continued use. In addition to the increased production per cow, they have also increased the actual selling value per cow from 25 to 50 per cent, for the reason whenever a dairyman increases the production of his herd, he, at the same time, also increases its selling value in the same proportion. Creamery men can do no better thing to uplift the dairyman to build up and increase the dairy business and its profits, and incidentally their own, by doing all in their power to encourage the use of pure-bred sires. No investment the dairyman can make will bring such large returns in net profits.

If any dairyman wishes to improve the production of his herd in order that he may have a greater profit year after year, he can accomplish it in two ways. He can by keeping a record of his cows determine his best cows and dispose of the others and by breeding them to a pure bred bull, of the dairy breed which he favors most, and one that comes from a long line of ancestry that has been noted for large production of milk and butter fat, he is reasonably sure to raise young cows much better than their mothers. If these young cows are used to replace the poor cows he will secure a much greater net profit per cow and at the same time increase the selling value of the herd.

The other way is to buy cows of large producing capacity; but such cows are hard to find and are not usually for sale and cost more than the average dairyman is willing to pay, and he will find that if he wants to secure a herd of good cows he must raise them himself, and the only way he can do this is by the continued use of a good pure-bred sire. The sire, if a good one, may be much more than half the herd, when judged by the increased production and the accumulated effect of the influence for good he transmits. It is actually a fact that the sire may within a few years and at comparatively slight expense completely transform a dairy herd and actually double its net profits. The intelligent, progressive, successful dairyman by his carefully

(Continued on Page 524.)

# This powerful I.H.C. Engine will reclaim your waste land

IT is one of the great family of I.H.C. engines which is bringing unheard-of farm prosperity where all was a barren waste a few years ago.

Thousands of farmers are using these simple, powerful engines for irrigating their lands, and they have no other source of water supply. The engines pump water where it is needed. They pump water in quantities. They do it economically.

Have you a water problem to solve? Why not look into the matter and see what one of these engines will do for you?

## What I. H. C. Gasoline Engines Mean to Irrigators

**First**—In hundreds of cases they avoid the necessity of going away up-stream and building long, expensive ditches.

**Second**—They do away with costly ditch maintenance.

**Third**—They make an independent water supply possible.

**Fourth**—They enable you to store in reservoirs on your own farm the water that would otherwise flow by in the low-lying stream and run to waste.

You know the trouble is not so much a scarcity of water as of getting the water to the right place. An I. H. C. Gasoline Engine enables you to take advantage of the low-lying lake or slough or spring on your place, or to pump water from the stream that flows by at the foot of the bluff.

The I. H. C. line includes an engine for every section and every problem—all sizes for all farm uses—vertical, horizontal—both stationary and portable; engines on skids; sawing, pumping and spraying outfits. Also I. H. C. gasoline tractors—first-prize-gold-medal winners—the best all-'round farm tractor by test.

An I. H. C. gasoline engine not only frees you from the worries of uncertain rainfalls and the irregularities of gravity irrigation, but the problem of the hired man is simplified—the efficiency of your other farm machines is more than doubled. It will operate your grinder, fanning mill, cream separator, churn, pump, thresher; your bean huller, cider press, alfalfa cutter, and any other machines requiring power.

Call on the International local agent for catalogue and full particulars, or address the nearest branch house.

**WESTERN BRANCH HOUSES: Denver, Col.; Helena, Mont.; Portland, Ore.; Spokane, Wash.; Salt Lake City, Utah; San Francisco, Cal.**

**INTERNATIONAL HARVESTER COMPANY OF AMERICA**

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TRADE MARK **THE I-H-C LINE**

LOOK FOR THE I. H. C. TRADE MARK. IT IS A SEAL OF EXCELLENCE AND A GUARANTEE OF QUALITY

# Bluestone
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# *Trees of All Kinds*

We are prepared to supply you with Fruit, Nut and Ornamental Trees. Ornamental Shrubbery, Roses and House Plants. We are specialists in **Eucalyptus** and are growing **Four Million Trees** this year after our own special methods, (send for our special eucalyptus phamphlet) which we specially recommend to your attention.

## Orange County Nursery & Land Co.

***Phones: Main Red 151. Home 1082.*** ***FULLERTON, CAL.***

# The Roessler & Hasslacher Chemical Co.

**100 William Street, New York**
**Works: Perth Amboy, N. J.**

THE ROESSLER & HASSLACHER CHEMICAL COMPANY CHEMISTS NEW YORK

**CYANIDE** guaranteed 98-99% for generating HYDROCYANIC ACID GAS

The only positive eradicator of the SAN JOSE SCALE, RED and BLACK SCALE and other insect pests

**FOR SALE BY**

**F. W. BRAUN - Los Angeles and San Francisco**
**HAAS BARUCH & CO., " "**

# Citrus and Sub-Tropical Fruits

## THOROUGHNESS IN POMOLOGY.

By Prof. A. J. Cook, Pomona College.

I believe it goes without saying that the greatest loss to our orchardists at the present time is lack of thoroughness especially in cultivation. I have been visiting quite a number of orchards of late. Some are showing no lack of fruit, and the trees exhibit a wonderful thrift and luxuriance. In every case where this is true there is a splendid cultivation. The ground is always mellow, and the dry earth mulch all that any one could desire.

The loss from the lack of such cultivation, too often seen even in the orchards ahout here where the intelligence is so marked and exceptional, is lamentahle indeed. Of course, we must have plenty of water, and it is prohable that great loss comes from lack of fertilization; hut I imagine that many of our orchards would bear heavy crops very likely for years with little attention to the fertilizing elements if cultivation was all that could he desired.

It would pay any orchardist of California to visit the great Arlington orchards at Riverside. They are indeed a wonder. Such trees and vigor of growth is seldom seen in any part of the world! The excellent cultivation is just as patent. Indeed, anywhere in those great orchards,—and I have gone extensively over them—we find this thorough stirring of the soil that must surely make a thick pocket hook. It need not be said that the trees are loaded with finest fruit. The Arlington orchards are not only a source of great income to the owners, hut they are an ohject lesson which must do much to improve the orchard culture of our favored region.

In one town which I lately visited there were several large fine orchards. Some of these were very thrifty and loaded with the finest fruit. Others showed chlororosis, or "yellow leaf," and the fruit was not nearly as much in evidence. In these last orchards in every case the ground was hard and showed a lack of cultivation.

I wish we could do something to get all our orchardists to practice this better method of tillage. If we had a good pomological club in every neighborhood we might hope soon to reach this ideal.

## BLACK SCALE AND NIGHTSHADE.

Some months since this department quoted an article written hy Mr. E. O. Essig, since appointed horticultural commissioner of Ventura county, touching upon the necessity of eradicating nightshade from orchards if they are to he kept free from black scale. Mr. Essig now writes that at the present time effective work can he done hy ridding the orchards of the weed. So he sends this second reminder.

* * *

The handling of hlack scale is one of the prohlems every fruit grower in California has to face every year. Any method that can he used to keep it down adds to the quality of the crop and to the financial returns of the orchard. Parasites will do much to aid in this after fumigation has reduced the numhers of the scale. In this county fumigation for this insect has been successful in every sense of the word and there is no douht hut that it will keep an orchard free from smut and injury due to scale if employed every three or four years. But this is true only when all of the orchards of a community are regularly fumigated and when the nightshade is kept roots and all out of the orchards. This last caution I wish to emphasize in this article. Black scale has a particular liking for the white flowered night shade (Solanum douglasli) which too often grows under the citrus trees. The scale easily climbs from the limbs of the tree to the plant, and may very often be seen in great numbers on the stems of the plant. As soon as cold weather sets in the scale works towards the roots and may go as far as six inches under ground. They are there before the fumigating season closes and are never killed, as ground is a sure protection against the gas. Neither does the Scutellista work underground, so there is a constant reserve for more scale. Nightshade is abundant in a great majority of orchards farthest from the coast in this county and the wide awake fruit grower will see to it immediately that it he removed and if infested with scale, burned. In too many cases the plant is simply broken off at the ground surface. This is due to the fact that a great many small holes are bored at this place to admit a caterpillar which feeds and pupates in the plant just under the ground. In a majority of the cases the roots have been in the ground for years, while the new shoots have heen repeatedly broken off. The scale breeds on the roots at all times of the year. I have found adult egg-laying females and all other stages on the same plant in January, while ahove ground the eggs were all laid hy the last of Septemher.

The maln thing is to get the roots out of the ground, since new shoots are a means of letting the young from the nightshade to the tree. Now after the first rains is the time to get rid of this weed, while the ground is soft and all of the roots may he removed. Especially should growers do thls who have fumigated this fall. It pays.—E. O. Essig.

## COVER CROPS.

A cover crop is valuahle since it furnishes the indispensahle humus. Even if it furnished no nitrogen it feeds the plants indirectly, for by improving the capillarity of the soil it facilitates the movement of soil-moisture, and in this way reduces the limit of adequacy of all plant foods.

But on the other hand, the farmer or fruit grower who depends upon his cover crop for all his nitrogen is simply inviting loss, for it must necessarily be towards summer before a cover crop plowed under in the spring can furnish any nitrogen to the growing crop, and the time lost in the heginning of the season is never recovered. A month in the early growing season, from the farmer's standpoint, is worth two later on.

It is said that the feeding of the pig in the first six weeks determines the value of the hog. This is no less true of the tree; and it should he remembered that there is practically a new tree every year, (excepting in the case of the endogens such as palms, etc.), the older growth merely supporting the new and furnishing channels for the passage of food supplies.

Finally, it is rank extravagance not to apply sufficient nitrogen in an immediately availahle form as soon as growth hegins in the early spring; and the growers whose experience suggests this advice are not only getting adequate returns in the crop, but are also rendering their trees more resistant to their hesetting diseases.—R. R. Snowden, Chemist.

## IN FLORIDA.

Reports to the Florida Citrus Exchange from Lee and DeSoto county locals are of a most encouraging nature and the outlook is far brighter than the most sanguine expectations anticipated. The sentiment favoring the exchange idea has grown steadily, day to day, until even the commission house representatives and fruit huyers have grown very respectful in their reference to its progress.

The growers who contracted frult at 50 cents for oranges are not so complaisant. Already they have seen prices hid up to 75 and 80

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You draw out more than you put in when you become a savings depositor at this Home Bank. Your profit is definite, sure, constant. Every year is a prosperous one. Begin now. Keep your surplus funds at work.

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1 part Taylors Hydrated Lime
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mixed in a common mortar box

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cents on the tree and can easily figure their lost profits. Consignment and joint-account arrangements have been far less in comparison with former years, and the growers still owning fruit, who have not joined one of the many local exchanges, now give this ultimatum: "Our price or into the exchange we go."

One of the most striking elements entering into the future certain success of the exchange is the sentiment of all its packing house managers for improved picking, packing and shipping methods. As one of them expresses it: "I'm going to pack my whole stock as if it was for exhibition at the state fair." There is friendly rivalry all along the line, each wishing to excel the other in turning out the most perfect package possible. This certainly strengthens the hands of the sales department greatly.

Their packing houses are being remodeled, improved and new devices added for preparing attractive fruit and packages. They are trying to see how well they can pack the fruit, first of all, and then utilize every economy compatible with this result.—Jacksonville Times Union.

## TREATMENT OF WOUNDS.

The argument in favor of dressing wounds caused by pruning is that it prevents decay and checks evaporation, both of which might interfere with the healing process. While in our arid climate the first is hardly applicable, the second should probably be doubly important. Yet, the matter of dressing wounds is not so important, but that work improperly done is worse than no treatment. A good lead paint is one of the most satisfactory dressings yet found. Rather a thick paint should be used, and careless daubing of the surrounding bark should be avoided. Grafting wax is a good dressing, but is rather expensive and difficult to apply. Other materials have been used, some successfully and some disastrously, and the grower is to be cautioned about experimenting; better stick to materials known to be safe and efficient. Growers often overdo the matter and waste time treating small wounds. Surely a wound less than one and one-half inches in diameter is not worth bothering with.

These suggestions apply to wounds made by the careless cultivator, as well as those made by the pruner. Unsightly wounds and permanent injury may often be avoided by proper treatment of trunk wounds. When the body of the tree is injured the ragged edges of the bark should be pared off to sound tissue and the whole injury covered with paint or grafting wax. If promptly done, this prevents drying out of the tissues, and new bark will readily form, except on parts where the outer wood cells are actually destroyed, and in time this will grow over. Wrapping the injury with cloth, or if it is near the ground, mounding earth up over it will often answer the same purpose.—Colorado Ag. Col. Bul. 139.

Willows has just added 1200 acres of land to a tract devoted to eucalyptus culture.

The Leonard Coates Nursery Company is shipping a quantity of eucalyptus trees, (E. Corynocalyx, or Sugar gum), to Mill Valley, whence they will be taken up Mt. Tamalpais, and will form the nucleus of a forest which Mr. Jas. Newlands, Jr., is engaged in planting on his land near the summit. It will add immensely to the beauty of that part of the mountain, and the trees will also be a great conservator of moisture.

The new officers of the California Educational and Co-operative Union elected last week at Fresno are as follows: President, W. H. Wrightson of Fowler; vice-president, S. M. Ingram of Kingsburg; secretary, B. M. Cook of Selma; treasurer, F. M. Wrighter of Santa Clara. The directors chosen were William Tyler of Imperial, L. J. Church of Santa Clara, J. H. Dawson of Hanford, E. M. Brandenstetter of Placer and V. D. Whitmore of Stanislaus.

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Is a Simple Problem in Economics

You cannot extract sunbeams from cucumbers, nor blood from stones, nor good crops of fine oranges and lemons from inferior trees. A poor tree is an expensive experiment entailing only vexation of spirit and a dwindling pocket book. Then why experiment with stock of doubtful quality? Why not get the best and be sure of the future? For 20 years we have been supplying the people who grow good citrus fruits with their trees in every citrus growing section of the world, and stand ready to serve you equally well. Why not write us and let us become better acquainted

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**San Dimas Citrus Nurseries**
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Berry growers near Asotin, Washington, are marketing liberally of blackberries and dewberries.

# Deciduous Fruit Culture

## STATE FRUIT GROWERS.

THE call for the Thirty-sixth State Fruit Growers Convention to be in Watsonville, December 7 to 10 has been sent out by the State Horticultural Commissioner. The Call says:

One of the most pleasing features is the place where this convention is to be held, Watsonville, the center of the beautiful Pajaro Valley, which ships yearly more apples than any other district or districts combined on the Pacific Coast. These apples, the Newtown Pippin and Bellefleur, which have made this valley famous, will be everywhere displayed, not only for inspection, but for sampling as well. Papers will also be presented on the subject of the apple in all its phases by representative men from the different sections of the Coast.

Of the other topics to be presented by paper and discussion some of the most important are: The leasing of our orchards and vineyards, its economic effect on the people and properties, and the closely related and ever significant farm labor problem. Our markets and transportation of our fruit will be discussed from every standpoint, from producer to consumer. Among these papers will be reports on transportation and storage experiments, pre-cooling, cooperation, distribution, grading and packing. The subject of a state highway will be presented.

One very important session will be devoted to health problems in rural life. This subject will be handled in a very pleasing manner and as it has never received consideration before will prove of unusual interest.

Other topics, such as the sulphur question, eucalyptus, fighting frost, almond, citrus, berries, and figs, will be presented by the best authorities on these questions.

## FRUIT GRADING. PACKING AND INSPECTION.

By J. T. Law, Loomis.

The meetings which have been held and the resolutions which have been passed about the grading, packing and marketing of fresh fruits incline one to doubt whether such subjects might not be much better discussed through the public press and where every one can read and ponder well at leisure in his own home the various schemes put forward. Probably there is no medium so convenient as the Cultivator for thrashing out and solving problems in which so many are deeply interested. Public meetings and resolutions may and should reasonably follow so as to decide by vote any points upon which men never unanimously agree.

But it seems like running the cart before the horse to pass resolutions and not consider them until afterwards, and this has evidently been done in regard to public packing houses. Resolutions more or less complicated were read, voted upon and passed at Newcastle and at Loomis which I do not believe were fully understood or considered by the bulk of the fruit growers present. Indeed it is doubtful whether half the speeches or half the resolutions were even heard by half in the meetings. Unfortunately people in enthusiastic meetings often take it for granted that all is right and vote as called upon without really knowing exactly what for. They may be actually surprised afterwards to read in the newspaper what they endorsed.

One particular resolution which I would refer to is that which calls for the establishment of public packing-houses, to which the growers must haul their fruit for sorting, grading packing, etc. I am told that this was passed unanimously, and yet I cannot find any one in this district in favor of such a scheme—excepting the party who introduced it. I have asked many and all have ridiculed the idea of hauling and jolting delicate fruits, full of bloom and color, in lug boxes, over rough roads, in dust and heat, to some distant public packing house. Surely more would be spoiled than packed.

It might suit very well a large grower, who has more fruit than he can manage, to have a public packing house erected in his orchard. It would be handy, also relieve him of much anxiety and expense in getting hands to do his work, but for the great majority of growers it will never do, and if persisted in may wreck the whole movement. Everybody agrees that a grading of the various sizes and official inspection will be good. Therefore, all that is needed is a simple plan providing an opportunity whereby every grower may have his fruit passed upon and stamped by an inspector.

Descending from the abstract to the concrete I would suggest that:

1. A responsible and certified inspector be appointed for each shipping house, whose duty it shall be to inspect and to pass or reject all the packed fruit submitted to him.

2. The inspector to be at liberty to select and engage any assistants he may need in busy times,—but the inspector to be responsible for the acts of his assistants.

3. The grower or owner of fruit to be at liberty to have all or only part of his fruit inspected, just as he pleases.

4. On arrival at a shipping house with his fruit the grower shall declare how many packages he wants inspected, and thereupon pay a charge of one cent per box on same. These charges may form a fund out of which the cost of inspection, etc., shall be paid.

5. The inspector with or without his assistants shall then proceed to examine the condition of the fruit, its ripeness, and whether graded according to standard marked on the box by the grower. He shall open as many boxes as he pleases. When satisfied that the fruit is right, he will stamp or label each box with the stamp or label adopted by the associated authorities, also marking thereon his own name or number of his certificate, so that if complaints came in from the East the inspector could easily be identified.

6. Fruit not submitted for inspection as also fruit rejected shall not be marked, stamped or labelled by the inspector, but shall be left to the grower or owner to sell, consign, can, dry or throw away as he chooses, and as he has been at liberty to do heretofore.

These arrangements would not interfere with horticultural commissioners nor shipping companies, so their assistance would not be necessary. I believe such a plan as this would be sufficient. Soon as growers see inspected fruit fetching 10 to 50 cents a box more than un-inspected they will quickly learn how to sort, grade and pack so as to get these higher prices.

There must not be any coercion attempted. And as to none but first class qualities of fruit being shipped, it must be remembered on the one hand that every man has more or less of faulty fruit every year which he could afford to sell cheaply, while on the other hand there are in our large cities crowds of poor people, men, women and children unable to pay high prices for highest qualities, but who are happy to buy slightly damaged fruit at a low price. A peach or a pear may have a bird peck, or a worm hole, and yet be an excellent fruit. To waste such would be a sin and a shame.

Growers may do well to think things over well, and then know how to vote on resolutions.

---

The raisin men of Fresno county have taken active steps to break up the prackers' trust which they assert exists, and an attorney has been instructed to take action against the combine on the ground that it is formed for the purpose of restraining the trade.

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One Year $75. Send for Circular.

Employment possibilities very strong in Sacramento.

The supervisors of Alameda county are discussing the advisability of expending $10,000 in planting trees along the country highways.

## THE ORIGINATOR OF THE CONCORD GRAPE.

EPHRAIM Wales Bull, who became famous as the originator of the Concord grape, died at his home in Concord, Mass., October 2, 1895. He was born in Boston, March 4, 1806. The last two years of his life he had been in the Home for the Aged. Mr. Bull, who lived on the road to Lexington for many years, developed the luscious Concord from the seeds of a grape that was found growing wild in 1840, near the village of Concord.

Mr. Bull received a good education and was working as a gold beater when disease of the lungs drove him to an open air life. He became an enthusiast in grape culture, but could not make any of the sweeter varieties thrive in the cool climate of the section mentioned. Even the Long Island grapevines perished there. Only the little acid varieties were hardy enough. But when he tasted the fruit of this wild vine he found it as he says, "foxy, but sweet," and was convinced that it would do. In 1843 he planted a lot of the grapes without breaking the skin, the seedlings of which he cultivated for six years, and in 1849 picked from them a few bunches of the original Concord grape.

Continued experiment and culture brought them to perfection, and now the fame of them has gone out into all the world. In France it has been recommended as the variety which is to replace old and diseased vines. From the Concord Mr. Bull developed other varieties, of which the best known are the Una and the Cottage. Mr. Bull was a member of the Massachusetts senate, member of the Social Circle,, and a very prominent Mason. He was a past master of Corinthian masonic lodge, of Concord. He was a man of very strong will, great thought, well read and versed in history. He was a member of the Board of Agriculture ten years, and was at one time a selectman. He desired to live until he could see his new grapes on the market. Some of the large New York vineyards have been cutting from them for the yast 14 years. One of these grapes he called Rockwood, after the latc Judge Hoar; another the Esther, for his father.

The old vine is attractive to many pilgrims who annually visit it. It is inclosed in a substantial trellis, and is kept quite free from grass and weeds. The house and grounds are in a well-kept condition, and a suitable monument to Mr. Bull will be erected. He "sowed that others might reap," and this is the sentiment on the bronze tablet on the native granite boulder at the head of his grave.

To the trellis has been attached a substantial oaken panel carrying the following inscription, cut by Mr. Bull himself in well formed letters. "I loked about to see what I could find among our wildings. The next thing to do was to find the best and earliest grape for seed, and this I found in an accidental seedling at the foot of the hill. The crop was abundant, ripe in August, and of very good quality for a wild grape. I sowed the seed in the autumn of 1843. Among them the Concord was the only one worth saving."—Green's Fruit Grower.

## CUCASA

Cucasa is a soluble saccharate of copper and lime, coming into use in Europe in place of the rather cumbersome Bordeaux Mixture. Such institutions and authorities as the Royal Institute of Viticulture and Horticulture, Geisenheim, Germany; the School for Viti- and Horticulture, Kreuznach, Germany; Comice Agricole, horticole et viticole, Besancon, France; Station Viticolc, Lausanne, Switzerland; and Mr. N. de Cock, Ath, Belgium; Mr. Louis Marchand, Port d'Ouvat, France; and Mr. F. Schwyzer-Honegger, Zurich, Switzerland, report favorably on its use.

Cucasa yields a solution of copper that has all the fungicidal propertles of Bordeaux Mixture, but with the added advantages of affording a clear solution in any dilution and of keeping comparatively long. Being a clear solution, it does not clog the nozzle of sprays; furthermore, much less of it need be used than of the Bordeaux Mixture, for efficient protection.

A solution of cucasa is uniformly alkaline; there can, therefore, be no copper sulphate present in it that would injure the foliage.

When sprayed on the trees, the thin layer of the solution is readily changed by the atmosphere, as in the case of Bordeaux Mixture, into the insoluble film of copper compound that has the specific power to kill fungi. The thinness of this film has the advantage of interfering all the less with the important functions of the foliage, and also of sticking very close—which was found in one case to be for three months after one spraying.

Cucasa consists of molecular proportions of copper sulphate, slaked lime, and cane sugar, thus being distinguished from other copper and sugar solutions by the proportions in which the constituents are present, in order to produce a clear, alkaline, fungicidal solution. Its inventor is Dr. C. Rumm, of Stuttgart, Germany.

It is put on the market ready for easy use, in packages to make a stated number of gallons of solution. —Merck's Report.

## THRIPS VS. COVER CROPS.

The question of thrips vs. cover crops was discussed at a session of Orchard City Grange recently and some new thoughts were advanced. It appears from experiments conducted by Mr. Dudley Moulton and also from experience of a number of fruitgrowers that plowing deeply and thoroughly in November or December after the soil has been wet either by rain or otherwise will effectually destroy enough thrips to practically insure a clean crop of prunes or other fruits. Many fruit growers have decided to try this remedy the present year, but a new condition now arises which will make it hard for some to do so.

Never in the history of fruit growing in this valley has so good a stand of alfilaria appeared as now. Where nettles and the almost as worthless Chinese lettuce have commonly occupied the ground, there is now more alfilaria and it has a good start. With ordinary rainfall a thick crop a foot high is assured by the last of February and with this prospect in view it will take nerve to plow it under when so small as to be of little use as a fertilizer. The question now arises, when is alfilaria in the best condition to contribute the most humus to the soil? It seems that little is known of this matter by the fruit growers generally, some contending that the best time to plow under a green crop is when it is still quite green and juicy, while others say that little or no humus will be aded to the soil at that stage of its growth. Some good, reliable information on this subject would be valuable to us all and interesting as well.

Can we not get this matter settled through the columns of the Cultivator?—Horace G. Kessling, San Jose.

## APHIS.

To destroy the aphis that attacks garden and ornamental plants, which is very likely to be the one that is damaging your cabbage, spray as soon as the insects appear with either kerosene emulsion or tobacco. To make the latter spray, use one pound of tobacco leaves to four gallons of water. Simmer one hour and then strain. Two pounds of tobacco dust or ground tobacco may be substituted for the leaves. To make kerosene emulsion, use two gallons of kerosene to a half pound of whale oil soap to one gallon of water. Dissolve the soap in water by boiling, and add the suds boiling hot to the kerosene away from the fire. The mixture is then agitated violently, preferably by pumping it violently back on itself with a force pump. After four or five minutes the mixture suddenly becomes creamy in substance. Use one gallon of the emulsion to 12 gallons of water in spraying.

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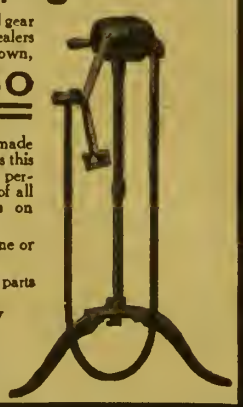

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E. G. Judah, General Representative, Security Bldg, Los Angeles

# Live Stock and Dairy

**Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.**

## FEEDING PROBLEMS.

By Mrs. M. E. Sherman.

AFTER a week up north of Fresno in the counties that are being rapidly developed into fruit and dairying, I come home more impressed than ever with the wonderful resources of the San Joaquin valley. The pumpkins and sweet potatoes of Turlock and the alfalfa fields around Modesto, the new country at Ceres with its fine creamery and dairy cattle, the great cannery at Atwater and the new pack of sweet potatoes in the dry form, all passed under review. I have enjoyed this week of Institutes, as everywhere I found readers of the Cultivator and uniformly appreciative words of the work it is doing for the California farmer and fruit grower.

### Corn.

The corn fields seen on this trip were uniformly good but planted too close together for heavy yields of corn. This mater of smallness and often of the lack of ears came up in several of the institutes. Corn is a grass and when too thick it is only fit to cut as fodder and is then to be considered a hay plant. At the Illinois Station in Bulletin 13, Professors Hunt and Morrow found that different degrees of closeness in planting gave the following results,

| Rows | Kernels to the Row | Good Ears Bu. | Poor Ears Bu. | Stover Lbs. | Grain Lbs. | Total Lbs. | Stover per acre Tons | Stover for each lb. Corn |
|---|---|---|---|---|---|---|---|---|
| 3 inches | .....47,520 | 13 | 46 | 3,968 | 2,250 | 6,218 | 4.8 | 3.6 |
| 6 inches | .....23,760 | 37 | 39 | 3,058 | 2,922 | 5,980 | 3.7 | 1.9 |
| 9 inches | -----15,840 | 55 | 22 | 2,562 | 2,977 | 5,539 | 3.1 | 1.5 |
| 12 inches | .....11,880 | 73 | 16 | 2,480 | 3,113 | 5,593 | 3.0 | 1.3 |
| 15 inches | ..... 9,504 | 63 | 11 | 2,398 | 2,782 | 5,180 | 2.9 | 1.4 |
| 24 inches | ..... 5,940 | 49 | 6 | 2,066 | 2,141 | 4,207 | 2.5 | 1.5 |

### Increase.

The increase in good corn ears is particularly marked as the distance increases, while the stover or corn hay decreases two-thirds, according to distance the grains are apart in the rows, yet the largest amount of good ears of corn came from the twelve inch plantings. In the matter of available nutriments more dry matter was secured from the corn crop when the entire plant was used from the three inch plantings. So that the dairyman if he regards the corn plant purely as a grass, gains most feed from the three inch plantings. The next question which arises is, does he gain enough to offset the difference in cost of seed? In the planting of the corn 12 inches apart in the rows there was 600 pounds less of available nutriment to an acre.

### Sugar.

The gain in available nutriment between the time of tasselling until the corn reaches the roasting ear stage is very rapid, then it drops off again.

| | | | | | | |
|---|---|---|---|---|---|---|
| July 30th | Tasselled | Glucose 58.3 lbs. | Sucrose 9.1 lb. | Starch 122.2 lb. |
| Aug. 9th | Silked | Glucose 300.4 lbs. | Sucrose 110.8 lb. | Starch 491.3 lb. |
| Aug. 21st. | In Milk | Glucose 665.0 lbs. | Sucrose 129.0 lb. | Starch 706.7 lb. |
| Sept. 7th | Glazed | Glucose 720.2 lbs. | Sucrose 95.1 lb. | Starch 1,735.0 lb. |
| Sept 23rd | Ripe | Glucose 538.4 lbs. | Sucrose 148.9 lb. | Starch 2,852.0 lb. |

The sugar and starch are developed at a late stage in the ripening and when this mature stage is reached, one pound of dry matter of well ripened corn plant has reached the highest nutritive value of the plant.

### Disappointments.

Many men plant corn and begin to cut it early and are greatly surprised that the cows do not increase the yield of milk on it. It is then very watery and will not give at all large returns any more than the early grasses of the spring time will give it. The silo gives us a chance to preserve the corn crop at its best by taking it at its highest nutritive value and holding it there at its best for feeding.

### Sorghum.

This plant affords a convenient form of green food for cutting and soiling during a long period, as it will grow up again after it has been once cut from the stalk. Seeds from the saccharine varieties are not much used for feed. The yield is not great enough when compared to that of Indian corn. Three-quarters of a ton of seed to the acre is about the average yield of seeds. The fodder or hay is rich in value. The dry matter in 100 pounds is 87.2 available matter; digestible protein 7 pounds, carbohydrates 52.1, ether extract 3.1. Sorghum is a dry or arid land plant and will produce a crop on a limited allowance of water. Corn requires a much larger amount of water to make a growth. If corn is once stunted from want of abundant water it will rarely recover and make a full yield. Sorghum will stand still without drying out for a long time and when watered starts to grow without showing the stunted effects of the drought. —M. E. Sherman.

## WHY SOWS GO DRY.

In the first place we hold the opinion that there is more money in raising eight or nine pigs from a sow than there is in raising a larger number. We have seen men go into ecstasies over the fact that one of their sows had farrowed 12 to 14 pigs, and they would start in with the whole number and expect to take them through successfully to the weaning time. While we do not say that it cannot be done, we do say that it cannot be done successfully in the great majority of cases. With those breeds that are prolific the right thing to do is to kill the little fellows that seem to have the poorest place on the udder. This can be determined in a very few days, and if this plan is carried out it may prevent the trouble. In the case of a gilt, seven or at the outside eight pigs are all that she has any business with. Sometimes with gilts and with old sows there will be one or two teats that are not well developed. Just as soon as a little pig finds out that he is starving to death he starts in to use his tusks in earnest, and as a result you have black eyes, sore cheeks and, in the end, you will have a sow with a sore udder, because the last thing that a pig will do is to let go his hold when a neighbor pig undertakes to jostle him. He will hold on, not only with his lips, but after so long a time with his teeth, and every man who has raised hogs knows what the result will be. The old sow will be on her feet in an instant, and later on, when the pigs get busy again and another fight for position ensues, the sow goes through the same performance. In a few days the result of this will be that the sow will shut off the whole milk supply and then you have on your hands a starved litter. It never pays to hesitate about killing a pig right on the spot

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if you find out that his part of the udder hasn't developed properly. He will be a runt if you get him through and he will do his best to runt the others.

Men differ in their opinion as to the necessity of removing the little tusks. It may do no harm to cut them off, but we will say that as the result of long experience we have not found is necessary to do so. If the sow is fed well, so that she has plenty of milk for her pigs, there will not be any trouble, only of course when the litters are mixed and you then have a plan of systematic stealing. When that program is started there is no such thing as raising a uniform bunch of pigs, and that is why we have always advocated the practice of keeping each sow and her litter separate until such time as the little pigs know their own dam.

Generally it is not practicable to have more than two sows in the same lot together when the pigs are young, because if the number is increased the little pigs get confused and often start in at the wrong place.

Of course feeding may have considerable to do with a sow drying up when her pigs are three weeks old. At that time she ought to be getting about all the good, rich slop that she will consume twice a day, and this should not be composed wholly of corn. If corn is used, add one part of oil meal to eight parts of corn or one part of tankage to 12 parts of corn. A mixture of ground corn and shorts makes a very satisfactory slop, but, as said before, let the old sow have an abundance of it, especially if she has a large litter, because at no time in the life of a pig can as cheap gains be made as when it is sucking.—Iowa Homestead.

### READ AND HEED.

Don't forget that charcoal is good for the hogs, salt also. Have it where they can help themselves.

Often pigs lack in vigor because the brood sows are kept too fat.

A good thrifty condition is much better for the pig than too much fat.

Good treatment is seen in hogs quicker than in almost any other animal when an increase of feed or care is made.

---

It is much the best economy to furnish swine a grain ration when they are on pasture, as it results in better gains and a better product. One man estimates that it takes from one-half to one-third less corn on alfalfa pasture than on a straight grain ration to make a hog ready for market. Many let the hogs run on alfalfa until about five to six months old, by which time they reach a weight of 75 to 125 pounds, feeding just a little grain; then they feed heavily for about two months and sell the hogs at eight months old weighing 200 to 225 pounds. One farmer, who raises about a thousand hogs a year and who in one year sold $11,200 worth, makes a practice of growing his hogs on alfalfa pasture until about eight months old, feeding one ear of corn per head daily. He then feeds heavily on corn for a month or two and sells at an average weight of 200 to 225 pounds. Another man feeds all the corn and slop the pigs will clean up, all the while grazing them on alfalfa pasture, and sells at six to eight months old at weights of 250 to 300 pounds. Another, who raises about a thousand head a year, feeds all the corn the pigs will eat, beginning shortly after weaning and continuing until the hogs are sold at ten to eleven months old, averaging about 275 pounds.

Another farmer, from weaning time (two months old) until eight months old, feeds the pigs nothing but dry corn on alfalfa pasture, averaging about one-half gallon of corn (3½ pounds) a day per head. At the end of eight months he sells at an average weight of 250 pounds.—From Coburn's "Swine in America."

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"The National Association of Live Stock Breeders and Raisers will hold their annual Convention on December 2d, in hall over Drover's Deposit National Bank, Stock Yards, Chicago. The subject of appointing a strong Committee to go before Congress and urge a liberal appropriation for the Department of Agriculture and Bureau of Animal Industry, for the purpose of preventing and eradicating Tuberculosis, Hog Cholera and Plague, Anthrax, Sheep Scabies, Ticks, etc., will be agitated.


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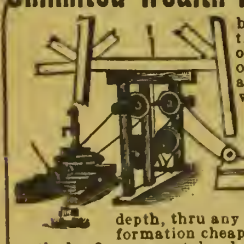

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President Giffen of the new raisin growers' association asserts that raisins now in growers' hands will only total about 5000 tons.

# Small Fruits and Vegetables

## CUT WORMS REMEDY.

As a rule, cut worms are a small factor at this season of the year, but even now they are occasionally troublesome. A vigorous campaign is necessary where perfect control is desired.

In the whole list of remedies for insect pests, the poisoned bran mash has been one of the most effective, and it is to be regretted that such a cheap, easily applied and successful treatment as it has proved to be, is not more generally used. In order to get the best resuts from the use of this bait, the following precautions in preparing and applying it should be observed:

Procure a bushel box or large soap box and place 25 lbs. of bran in it. Molsten with half a pail of water thoroughly diffusing the moisture throughout the bran. It is better to have the bran under moistened rather than over moistened. Dissolve 3 pounds of sugar in half a pail of water and add this in the same way. The right amount of water has been added when the bran is moist enough to cause the fine particles of Paris green to adhere to it and when it crumbles easily and runs through the fingers without adhering. Now take ½ pound of Paris green and dust a portion of it over the surface of the bran. Stir the bran thoroughly. Repeat this process until the whole ½ pound of Paris green is thoroughly disseminated through the 25 pounds of bran. If the Paris green is added to perfectly dry bran, owing to its weight it will sink at once to the bottom when stirred, in the same way that it does in water. Until ready to use, place the mixture in a cool shaded spot. The land upon which the crop is to be grown should be kept free from all vegetation for two or three weeks previous to planting. This renders the cutworms hungry, and they will eagerly attack the poisoned bait when it is applied. The bait should not be applied till after the sun goes down. If applied in the day time, the heat of the sun dries out the mixture, and it loses some of its sweetness and its not so attractive. The first application should be made in the evening of the day the plants are set out and subsequent applications during the next few days at the grower's judgement. When applying, sprinkle just a little close to the stock of each plant. Fifty pounds of bran with one pound of Paris green thoroughly sweetened and prepared as above described, will cover one acre and can be applied in two hours, so that this remedy is much cheaper and more satisfactory than resetting. Wherever a plant is cut off, the worm is sure to be quite near the root and should be dug out and destroyed. Clean farming will also help by destroying many eggs and preventing the deposition of others.

## THE VITALITY OF SEEDS.

I have several books on gardening which contain tables purporting to give the vitality of seeds under average favorable conditions. Theoretically, such tables are very useful. If a quantity of seed is left over one year, it looks like a shame to discard it and buy new seed. But while I haven't made very close observations—have no records to prove my belief—I've come to the conclusion that there are very few cases in which it pays to use old seeds. Even when the old seeds germinate freely the difference in vigor of growth in favor of fresh seeds seems to me to much more than offset the value of the seeds discarded.

My observations, however, may be at fault through error in regard to the age of seeds purchased, for I don't know how old they may have been when I got them. The seedman may have consulted the vitallty tables before me.

The one vegetable that in my experience age of seeds has made the least difference with, is the beet. I used last season the last of two lots of beet seed from which I had sowed some each year for four years, and the seed was apparently as good as the first year. Radishes from seed known to be three or more years old have grown more slowly with me than when the same seed was fresher. Cabbage is supposed to be safe for four or five years, but I never get good plants from seed I have had that long. I've tried a number of little remnants just to see.—Ex.

## POTATO BLIGHT.

There are two blights, or fungous diseases, which affect potatoes in all sections almost every season; one is the early blight and the other is the late blight. When potato plants seem to stop growing for no apparent cause, or the foliage becomes brown or spotted, the trouble can safely be laid to the blight. It has become so common and wldespread that in most sections the annual potato crop is reduced fully 50 per cent.

Potato blight, however, can easily be controlled if taken in time, and a full crop of tubers will result. Begin early and spray the vines every two or three weeks with the well known Bordeaux mixture. In many localities potato growers have nearly doubled their crop by frequent spraying with this mixture.

The late potato blight is also responsible for wet rot of tubers in the bin. Its progress on stored potatoes is checked by dusting them with air-slacked lime. The cost of spraying potatoes is about one dollar per acre, and the gain from five to six sprayings amounts to an average of about $25 per acre. When potatoes are thoroughly sprayed they not only produce much more of superior tubers but the tubers are less liable to rot and future infection of the potato soil is reduced.—Journal of Agriculture.

## CARE OF STRAWBERRY PLANTS BEFORE SETTING.

It is very often the case that plants are received several days before the ground is ready for setting. Since the plants come tied in bundles and packed in damp moss it is very necessary that they be opened and spread out to prevent molding. The only safe and economical way is to heel them in. Select a well-drained piece of land, remove the trash, if any, and spade up deeply. Level off the soil and cut a trench deep enough to admit the roots without doubling up. One side of the trench should be nearly perpendicular. Lay the plants on the perpendicular side of the trench so that all of the root system comes below the surface, but not so deep that the crowns may be covered. In the latter instance the crowns will rot if allowed to remain in the ground for any length of time. Spread out the roots and place the plants so that they barely touch. Fill up the trench with fine soil and pack down firmly with the foot. Be sure there are no air spaces left among the roots. Be sure that the roots do not extend above the ground. If there is any danger of the plants freezing, cover over with a light coating of straw. Do not put it on very deep as the plants are liable to be smothered.

Vining beans and all other vines should have pole or similar mechanical supports. Some plant corn or sunflowers for beans to vine on. This is the "lazy gardener's" method. Two thrifty plants cannot occupy the same soil space at the same time and thrive. Plant corn and sunflowers by themselves and beans by themselves and give the beans good pole support if you wish to secure a big crop of beans.

No seedsman can afford to sell good seed at a low price. Pay a good price and get good goods. This is imperative for success in garden work.


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# Ornamental

### A SMILE FACTORY.

THE following which is from the Sunday School Times applies to California—applies to the whole world. May we not have more "smile factories?"

Come and go out to the front yard gate with me and see me make some smiles. They are very fine, and yet are inexpensive and very easily made.

I'll tell you how I do it. In November, when my neighbor pruned her fine roses, I took forty-eight of the cuttings and put them in the ground just where I wished them to grow, with a handful of clean sand about the lower end. Over each was put a glass fruit jar, hilling up the earth about these protectors. These were left on through the winter and until the spring was well advanced. Then I had forty-three small rose-bushes which, with a little cultivation, grew rapidly and soon began to bloom.

Now the smile factory is ready. I go out near the front gate, where the roses are in a row along the drive, and wait for some one to fit a smile on. Judging from what I hear them say, the girls must have considerable trouble fitting their frocks. But I never fail to fit a fine smile on any one—fat,, lean, tall, short, old or young—the very first trial.

Here come two bright girls on their way to school. "Take your choice," I call, as I hold up an American Beauty and a La France. Each pins one on her shift-waist, and, with a hearty "Thank you, thank you," they trip away wearing two smiles that would grace a queen.

Next a young man comes spinning by on his bicycle, I hold up a fine bud, with a beckoning motion. Of course he stops, and I give him the bud with a pin to fasten it on the lapel of his coat. The smile he carries away is a becoming companion for the lovely rose-bud.

An old "black mammy" has been down town to deliver the week's washing to several families. The black face looks tired and sad. "Mammy, let me give you these two big red roses." "Oh, thank you. Ain't they sweet?" And, with a courtesy, she goes on, the dear old motherly face illumined with a smile that is good to see.

Toward evening a railroad laborer passes with empty dinner-pail, going home. "Take these to the wife," and I hand him a bunch of beauties. A smile lights up the toil-hardened face, and the step is sprightlier as he goes on down the track.

"Would you like this to wear?" And, as the little daughter of Ham goes on her way, a smile has transformed her into an ebony cherub.

And so I may, and so I will, go on indefinitely making smiles that suggest that land where there shall be no tears. And every time I fit one of the new-made smiles on another's face I feel one playing over my own face.

Does my smile factory pay? Indeed it does; pays big dividends. Start one yourself; not much capital is necessary. And, judging from the sober, sad, grief-drawn, toil-hardened and care-worn faces, there are not now nearly enough smiles made to go around.

Every day I pass a yard, at a street crossing, that is radiant with roses, and none of them are ever cut. I wish I could have it for a few weeks at least; I'd establish in the corner, where so many smile-less people pass, a free smile dispensary. And as long as the roses lasted, that should be the most smileful street-corner in town.

---

Concrete is now used to make all kinds of garden accessories. It is practically indestructible and the color of this material in its natural grade cement is most pleasing and blends with out-of-door surroundings better than marble or newly cut stone.

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Forest fires did great damage near Bisbee, Arizona, last week.


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It has been found that Rex Lime & Sulphur Solution used in the early part of the season is as effective for Blight as the Bordeaux Mixture, and it does not have the injurious effect upon the tree as Blue-Stone. In Oregon and Washington the use of Bordeaux is being entirely eliminated and lime and sulphur solution used for all purposes. The leaves are falling from the trees, and especially the Peach, Almond and Apricot should be immediately sprayed for the first spraying. The second spraying should be done on all trees just before the buds open in the Spring.

Rex Lime & Sulphur Solution is a guaranteed article; properly prepared; free from sediment, and as cheap, if not cheaper, than the farmer can make a mixture himself.

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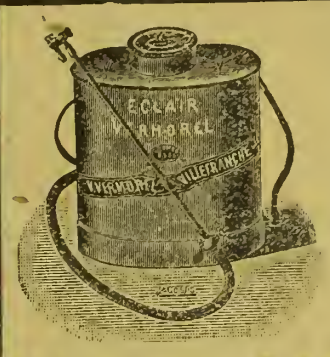


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We have 200,000 trees of various varieties just the proper size for fall planting. We would advise that you place your order early, as there are very few trees to be had at this time of the year.

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Grower of Strawberry Plants only, and only the best.

# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, November 25, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

Frank H. Thomas, Adv. Mgr., 115 No. Broadway, Los Angeles
M. C. Holman, San Francisco Office, 733 Merchants Ex. Bldg.
Fisher Special Agency, Eastern Office 150 Nassau St., New York
H. G. Hutchins, Subs. Man'gr., 115 No. Broadway, Los Angelcs

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## Exhibits at Conventions.

WE NOTE that the Oregon State Horticultural Society which will meet in Portand the week of December 5th, will make extensive exhibits of horticultural products for which cash premiums will be offered. In looking over the premium list we find many $25 and $50 cash premiums offered and a great number of $10 premiums. The best five boxes of apples captures $50, and there are several $50 premiums for single county exhibits. The best exhibit of 25 pounds of walnuts will receive $20.

The idea of mentioning this at this time is to suggest that such an exhibit as will be brought together by these 125 premiums offered by the horticultural society will have more educative effect than several days' discussion of abstract questions. There is too much offering of resolutions and discussing of questions without reaching definite conclusions. The newspapers and magazines appreciate the fact that education is quicker and more lasting when it comes through the eye rather than the ear. Therefore, vast numbers of engravings appear in every issue. Exhibits of fruit show the same results. A magnificent showing at once stirs the curiosity to know the where and the how of such production. We believe that our state conventions could well take suggestions from the Oregon plan.

## Growing the Best.

A PROMINENT GROWER of walnuts who was recently in the Cultivator office, in referring to grafting over his English walnut trees, said that while he had recently grafted a large proportion of his orchard and the trees were very greatly reduced as to size of top, yet his orchard was producing two-thirds more nuts than before cutting off the tops of the trees. This was due in a very slight degree to increase in size of the trees which had not been cut back, but more largely to the young grafts coming into bearing. These newly grafted trees were producing far more the second year after grafting than had the entire tree tops before. His cost of cultivation, irrigation and fertilization, and other items of expense were in no way increased. The orchard was cultivated no more intensively. When these grafts come into full bearing, it may be imagined that the increase will be vastly more than appears at the present time.

The orchardist often works week in and week out, and even year in and year out, caring for trees which will never bear a full crop. Trees are like men; they are good, bad and indifferent, and the sooner the orchardist realizes which are the bad and indifferent ones and replaces them with something which produces more, the sooner he will receive proper returns from his ranch. An unproductive tree in the middle of the ranch costs exactly as much to cultivate and irrigate as does a good one.

## Get a Lesson.

TALKING WITH PROF. CLARKE a few days ago about the great good the University is doing the farmers in conducting these institutes, he remarked that one incredible feature of all such efforts was that so many farmers took away no lessons from these meetings. It is hard to conceive how a farmer can attend with eyes so closed as not to take away at least one lesson which will help him to produce better fruit. Possibly this is due to indifference, but more largely to the old lingering feeling of many practical farmers that "book farming" is to be looked down upon. But scientific men who have delved into the mysteries of nature have something to give our hard working practical farmers. The book farmer might possibly not be a success when it came to working on the farm, but he has information which will help to make the work easier and more profitable. Let every farmer go to these meetings with his eyes and ears open, prepared to carry home, not only one,but many lessons.

## Settled a Lawsuit.

THE SETTLEMENT of the lawsuit between the Anderson-Barngrover Co. and the walnut growers of Southern California has been a very wise step. The growers were convinced that they had a strong case and could win out in the supreme court, but when the owners of the patent dipping process showed an inclination to accept a reasonable compensation, the growers promptly paid up, and instead of fighting the case, which would have required some little funds and much time and exasperation, settled the entire matter on the payment of $10,000. The process now used by walnut men generally in bleaching walnuts is the electrical process and does not infringe upon this patent, so that the chloride of lime process will no more be used.

## Cotton.

SPEAKING OF THE PRONENESS of Californians to go to extremes in the planting of one variety of fruit or particular product, a prominent grower recently referred to the situation in Imperial Valley. At the present moment the entire valley seems filled with the idea that cotton is the one great staple which will bring it wealth. A few months ago it was feared that the production per acre would be so low and expense of gathering so high that the experimental planting would result in failure. But the crop has been gathered and much of it marketed at a fair price. Now the air is full of cotton and the question is whether or not the whole valley is to be turned into a cotton field.

Attention may be called to the fact that in the same valley this fever has had various manifestations in the form of grape planting, date palm planting and cantaloupe planting. The cantaloupes made much money for those who first engaged in the business, but the prevailing idea that if a little was good much would be better, ruined the industry, so that few made anything from it in the last two years. Very probably the industry will be put upon a better basis and prove most profitable again. No doubt the same will be true of cotton, but if it is boomed and boosted to such an extent that all kinds of people rush into cotton raising with large expectations of profit but small understanding of the industry, the Valley will be seriously injured. Level headed growers should endeavor to keep a steady hand on these industries and not permit wild statements to carry people off their feet.

## Looking to the Future.

THE TURLOCK IRRIGATION DISTRICT is one of the big irrigation schemes of California which has emphatically made good. In this district are over 176,210 acres of San Joaquin Valley soil whose fertility was not realized until the introduction of irrigating water diverted from the Tuolumne river by the great La Grange dam. This dam does not store the storm waters at all, being merely a diversion dam. The owners of these lands who are also the owners of these great water rights are now realizing the necessity of insuring a more permanent flow and as the section becomes more thickly settled the demand becomes more insistent. The Turlock Journal has taken up the matter and is urging the securing of reservoir sites at certain locations where dams may be constructed to store great bodies of water. Corporations and great interests are doing their best to control these waters. The people must awake, and the Turlock-Modesto owners have begun none too soon.

## Opportunities for Dairying.

(Continued from Page 515.)

selected sires of known heavy producing ancestry goes on increasing and intensifying the improvement of his herd from generation to generation. In this way the sire becomes one-half, three-fourths, seven-eighths, fifteen-sixteenths, etc., in a few years the sire is practically the whole thing when improvement is considered. It can readily be seen that a good pure bred sire that can add from $10 to $50 to each of his daughters in producing capacity and actual selling value becomes the most valuable animal on the farm for the reason that he makes his owner the most money. It is neither unreasonable nor impossible for a good pure-bred sire to increase the average value of his daughters $25 each and he could easily sire fifty heifers during the year which would make his year's work amount to $1250 and in six years $7500 in increased producing capacity and selling value of his daughters to say nothing of his grand-daughters and great-granddaughters, which if taken into consideration would probably increase the value of his influence for good to twice that amount. It is impossible to estimate the value of a good pure-bred sire in a dairy herd, and the improved dairy bull that can transmit heavy producing qualities of his ancestry to his offspring affords an opportunity to increase the profits of the dairy business more than any other one thing. Creamerymen above all others should bear this in mind and act accordingly.

The development of irrigation by storing water in immense reservoirs in the mountains, the diverting of water from streams that formerly flowed into the sea, the better understanding of sinking and developing pumping wells, the perfecting of pumping plants, the securing of successful artesian wells by going to greater depths, the more economical and scientific use of irrigating waters, the cutting up of large bodies of land into subdivisions and providing therefore a necessary and adequate water supply, the distribution of irrigating waters over large tracts of semi-arid land suitable for the production of alfalfa, the securing of improved pure bred dairy sires, these together with a climate that is marvelous and with the best markets in the world, provide us with unparalleled opportunities for dairying in California.

# Agricultural News Notes of the Pacific Coast

## Northern California

Grape shipping has been finished at Lodi.

Sutter county orchardists are already pruning.

Large new acreage of hops is being planted at Wheatland.

An irrigation ditch at Sunset, Sutter county, will be extended to Terra Buena.

The Sonoma County Poultry Cooperative Association held its annual election in Santa Rosa last Saturday.

Sacramento county has formed a Board of Forestry which will have charge of tree planting along the roadways.

The area of national forests in Shasta county is 509,972 acres. Tehama county's forest reserves aggregate 558,720 acres.

Tehama county is shipping olives to Southern California for pickling purposes, one company having purchased over $32,000 worth.

The supervisors of Contra Costa county are directing a warfare on squirrels many of which are known to be infected with bubonic plague.

Yuba City fruit growers are endeavoring to have the California Debris Commission take action looking toward having the brush cleared from the Yuba river.

The fruit growers of Solano and Yolo counties held a most successful meeting at Vacaville to discuss matters very much along the line taken up by Placer county growers.

The cider works at Eureka is receiving about a carload of apples a day for the manufacture of vinegar. Windfalls and other cull apples are being bought for five dollars per ton.

No other state fared so well as did California at the A-Y-P Exposition. Over 800 awards were made to exhibitors from this state which is said to be more than to all other states combined.

This season's shipments of deciduous fruits from Northern California beat all former shipments by over 2000 cars. The total was 14,688 carloads. This does not include citrus fruits nor apples.

The trustees of Oroville have applied to the United States Circuit Court for injunction against the Ophir Gold Dredging Co. to prevent the using the of a certain strip of land near the city.

The Committee of Fifteen appointed at the Loomis meeting of the Placer county fruit growers met at Newcastle on Saturday the 13th and called for a meeting of the entire convention to be held at Newcastle on November 22nd.

A meeting of the River Advisory Board of the State Engineering Board, called a meeting of land owners at Sacramento for November 22nd to take steps to secure from Congress an appropriation of $400,000 to match a like appropriation from this state for the purpose of acquirement of land at the mouth of the Sacramento river and widening and deepening its channel.

## Central California

A bunch of wild turkeys has been liberated in the Sequoia National Park.

Pajaro Valley is shipping a hundred to a hundred and fifty cars of apples weekly.

Exeter, Fresno county, claims $500 an acre net returns from Valencia oranges.

Modesto's farmers institute last week passed resolutions calling for better roads.

The acreage planted to beans in San Joaquin county will be greatly increased another year.

San Joaquin county bean growers report a slight shortage in crop this year but very high quality.

The annual convention of the California Creamery Operators Association is being held in Porterville this week.

The Delano Record says that the new creamery of the Delano Creamery Co. will be a model institution of its kind.

Corcoran is extending its agricultural field by growing cotton and has produced some very fine specimens this year.

A new deep well pump has been invented by a Delano irrigator, which is said to be a wonder of efficiency and economy.

Turlock farmers held a valuable institute conducted by W. R. McIntosh, Mrs. Sherman making the principal adresses.

Melon growers have been so dissatisfied with returns made by the farmers union that the officers of the union have requested that the books be audited by experts.

Madera county farmers are continuing the fight against ground squirrels and the county board of supervisors are distributing large quantities of poisoned grain at cost.

The Corcoran Alfalfa Association with 2000 acres of flat lake bottom land, is throwing up a levee fifty feet wide at the base and about ten feet high to protect its land from flood waters.

The horticultural commissioner of Fresno county reports an infestation of the citrus mealy bug which it has been exceedingly hard to control. The natural enemy of the parasite which has been introduced does not seem able to stand the climate.

Heavy white frost visited various sections of the San Joaquin Valley on the morning of the 15th. The average of temperature was not low, but the atmospheric conditions were such as to give a white frost with almost the appearance of a snowstorm.

The Cultivator stated last week that "Citrus growers in Kern county are alarmed at the discovery of red scale at Bakersfield, Kern and Delano," which information was secured from a San Joaquin valley paper, but which report we are now informed by Mr. Brundage at Delano was entirely misleading. The fact is that it was on fruit shipped in from southern points. It was condemned and returned which gave rise to the rumor that it infested the trees.

## Southern California

Fullerton growers have been shipping tomatoes, receiving forty dollars per ton.

R. P. Cundiff has been appointed horticultural commissioner of Riverside county.

The Calexico farmers union held a meeting last Saturday to discuss the cotton situation.

This year's crop of English walnuts for the entire state will amount to about 25,000,000 pounds.

It is estimated that California will receive for the coming year's crop of oranges about $26,000,000.

The Brawley News is urging the more extensive planting of orange trees in the Imperial Valley.

Seventy carloads of walnuts have already been shipped from Goleta Station in Santa Barbara county.

Escondido, San Diego county, is greatly elated over gold medal awarded her raisins at the A-Y-P Exposition.

A ninety acre table grape vineyard in Escondido yielded $30,000 profit to parties who leased it during the past year.

Riverside and San Diego county people are discussing matters pertaining to a genuine county fair to be held next fall.

The directors of the Lima Bean Growers Association are much pleased at the results of its co-operative marketing effort.

The big pre-cooling plant at Colton will be in operation about December 1st and will pre-cool fifteen cars of fruit every three hours.

It is claimed that one orange buyer in the Highland district, San Bernardino county, is offering $1.80 for navels delivered during the coming season.

The horticultural commissioner muddle of Orange county has been settled by the appointment of Roy K. Bishop as horticultural commissioner.

The county live stock inspector of Imperial county has declared a quarantine against certain sections of San Diego county on account of Texas fever tick.

A walnut grower near Fullerton has been investigating as to the cause of blight and thinks he has a partial remedy which is aiding him in securing larger crops.

The Cultivator recently referred to the bean warehouses of Ventura county groaning under the stores of beans, and we now note that a large warehouse of Saticoy has collapsed under its big load.

A special agent of the Department of Agriculture in charge of sugar beet investigations, reports that the quality of sugar produced in this state grades up with anything produced in the world.

The cantaloupe industry of the Imperial Valley will probably be much decreased during the coming year, but it is now thought that it will drop into the hands of experienced growers and that a permanent industry will be built up.

## The Coast

The supervisors are doing much good road work near Yuma, Arizona.

The Idaho Pure Seed Convention will be held at Caldwell, Idaho, January 13, 14.

Intensive farming methods will be conducted on a 6,000 acre tract near Merrill, Oregon.

All the horse arlstocracy of Arizona was at the territorial fair at Phoenix last week.

The creamery at Rosalia, Washington, is turning out about 10,000 pounds of butter daily.

One bean grower at Orofino, Idaho, produced over 200,000 pounds of Lady Washington beans this year.

The Northwest Apple Growers Association held a convention at the apple show at Spokane last week.

A milk condensing factory at Hillsboro, Oregon, has been compelled to close down because of shortage of milk.

Orange growers near Phoenix, Arizona, are holding meetings in an endeavor to perfect a horticultural society.

Wheat growers of Washington have been handicapped in disposing of their crop this year because of lack of cars to transport it.

The entire Northwest was visited by heavy rains during the first few days of this month, doing great damage to roads and railways.

A mass meeting of farmers and tax payers was recently held at Yuma to take action regarding increased assessment and heavy tax rate.

There is strife between the sugar cane growers and good roads people in Hawaii as to the right of the irrigators to construct flumes across highways.

Chief Engineer Davis of the Reclamation Service and an expert hydraulic mining engineer have recently been inspecting the Roosevelt Dam in Arizona.

The Oregon Horticultural Society will hold its annual session in Portland, December 5 to 9. A fine premium list is an inducement for an exhibit of fruits and nuts.

Wool growers in session at Pendleton, Oregon, declared that the policy of the government in its control of the ranges in forest reserves tends to destroy the wool industry.

A farmer at Pomeroy, Washington, hauls his crop of wheat and barley thirteen miles to town with a sixteen horse team, hauling 225 sacks of barley and 175 sacks of wheat to a load.

The sugar cane growers of the Hawaiian Islands are compelled to fight the cane bud moth which eats out the buds or "eyes" of the cane and this results in the cane decaying.

The Oregon Agricultural College at Corvallis, Oregon, has made a slight departure from the usual line of publications and has issued the "Business Side of Farming" with many most excellent suggestions and several pages showing manner of farm book keeping.

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***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90, 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

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**Cor. Griffin and Alhambra, Los Angeles**

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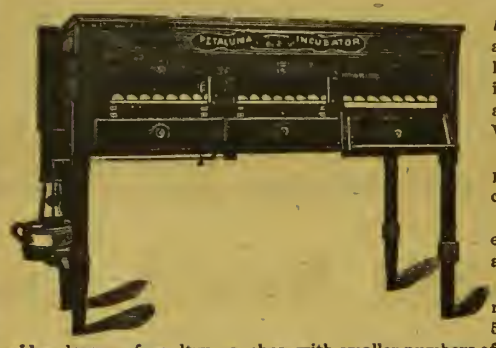


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# Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

### CHICKEN POX.

SEVERAL California poultrymen report prevalence of chicken pox which with some has proved most difficult to control. We note a writer in The Standard holds to the idea that this trouble is conveyed to fowls by mosquitos. He says:

"It is supposed that the infection comes from the grain fed, or from the soil. My own experience, however, causes me to differ from this opinion. I find that chicken pox makes its periodical appearance at the commencement of the rainy season when mosquitoes are plentiful, and I have every reason to believe that these, if not the actual cause, most certainly propagate the infection. I have reared chickens during the dry season in the same brooders in which a few months before dozens of chicks had succumbed to the pox. They were fed the same grain that the afflicted birds had had, and while the lot bred during the rainy season had not been on the ground at all, on account of the excessive moisture and dampness which prevails at that time, those bred and reared without mishap in the dry season were allowed on the ground when two to three weeks old, precisely in the same runs that has been occupied by the stricken birds.

"However, mosquitoes are not necessary to propagate this disease, as we saw a chicken pox epidemic near here where there were no mosquitoes present. In this case, the weather suddenly turned cold, and the chickens that were afflicted stood with ruffled plumage and tails down, and appeared cold. They had a slight cough, but no running from the nostrils or eyes, nor was there an offensive odor. The disease affected them so quickly and severely, that the bright active cockerel of the previous day with blood-red comb and showy action, would appear a pale-headed, listless bird on the morrow. On the third day there would be one or more small, light-colored specks or warts on their combs or faces. The wart would not be larger than a pin head at first, but it would rapidly increase in size, and from being a lighter color than even the pale comb, it would quickly change—if not treated—to a dark brown color. At this time the wart would be an eighth to a quarter of an inch in diameter.

"Chicken pox commences and is usually confined to the face, lobes, wattles, nostrils and mouth, but it is occasionally found under the wings in advanced or neglected cases, due in all probability to the bird rubbing its head there in order to alleviate the painful irritation. There are two varieties of pox—the dry and the moist—the difference depends only upon the surface upon which the pox develops; that is to say, on the skin or on the mucous membranes. If it develops on the skin of the face, comb wattles or ear lobes, it will be the dry or warty variety. If it appears on the mucous membrane of the eyelids, nostrils or mouth, it will be the moist or the vesicular variety.

"The vesicular variety is much more serious than the 'warty,' and will rapidly decimate a yard. The reason is obvious. The pox on the moist mucous membrane grows rapidly, and is much larger than the warty pox. If it begins at the conjunction, it soon closes up the eyes, which swell to an enormous size, blinds your bird, and being unable to feed, it wastes and dies. If the bird is not treated promptly the eyeball may become involved, and of course, nothing can save the sight. If the pox appears on the nasal mucous membrane, the whole nasal cavity at once becomes blocked, and the bird breathes with open mouth and gasps for breath.

"Although the dry variety is not really dangerous, it is troublesome and a source of irritation to the afflicted birds. It consists of a small raised scab or crust of warty appearance about the size of a split pea, of a dark brown color, hard, dry and roughish surface, and seems to cling to the skin like a limpet to a rock. If the wart is pulled off, a small round, shallow ulcer is found on the skin. The scab is the cap of the ulcer and for treatment has to be removed. Microscopical examinations have shown that this ulcer contains a fungus with spores known as Aspergillus fumigarus, proved to be the cause of the pox."

"Chicken pox is exceedingly contagious, but when it appears in a flock there is no necessity for isolating the afflicted birds. Many of the remainder are affected and the symptoms will appear later. The best way to check the severity of the pox is to place a few crystals of permanganate of potash in the drinking water as a disinfectant—the water should be colored pink. It is well to wash the birds' faces and combs with a 50 per cent solution of creolin and water every night."

The birds that have the warts should be caught, and the crust of each wart removed. The underneath tissue is bright red in color. A clean feather is dipped in a bottle of pure creolin and the raw tissue of each wart touched with the liquid. The next morning the treated wart has a black scab over it, which dries up and falls off in two or three days. The underneath flesh has then grown normally, and a week afterwards, a person cannot detect where the wart has been. In treating the moist variety, drop pure creolin by means of a feather, into the affected eye, or squirt it into the nortril with a fountain-pen syringe.

We are assured that creolin full strength will stamp out chicken pox in short order. All drug stores keep it.

### POULTRY QUERIES.

**Roup.**

Will you please tell me what is the best remedy for chicks that have froth in their eyes? Also how do they get to be in that condition?—A Subscriber.

Frothy eyes and running discharge from nostrils is usually designated roup, but all colds have these same symptoms, and all colds are not roup. Roup proper has a very foul, offensive smell called the "roup smell" once known, never likely to be forgotten. True roup is very contagious, and mild cases may cause serious epidemics.

The causes are many; bad surroundings, in which is included foul coops and yards, soil upon which fowls have run for a long time being one predisposing cause, hereditary tendencies and weak constitutions caused partly by improper and insufficient food, sometimes by too much or too rich, food, and neglected colds.

If roup is not checked it becomes chronic, (if the bird survives), and a hen may afterwards fatten up and lay eggs, but those eggs will not produce strong and healthy chicks.

The treatment should be to remove every affected bird. If very bad use the hatchet and burn the carcass, for people sometimes take this disease in a mild form, but a very disagreeable one. The eyes are most often affected, and become very sore and "bunged up," so one better not run unnecessary risks.

After taking out the affected birds, thoroughly clean up the premises about the chickens, and spray the house and yards with a good disinfectant, say a 2 per cent solution of creolium, formaldehyde, creolin, sulpho-napthol or nap-creol, using plenty, and after the birds have gone to roost spray the houses about the birds, and

especially their heads, with a fine mist sprayer, the following solution: One teaspoonful of pure creolin to a gallon of water; breathing this vapor is very effective. But it doesn't pay to waste $2.00 worth of medicine on a $1.00 bird, which is my sentiment exactly. For simple colds a little aconite in the drinking water is said to be as good for chickens as for people 1-100 of a grain in a pint of drinking water, but that seems pretty much of a homeopathic dose to me.

The permanganate of potassium so often recommended in these columns (a 2 per cent solution, holding the birds head under until it strangles, which forces it through the throat and windpipe,) is a standard remedy with me, and will cure advanced cases of roup, but as I said before, of what use are these cured birds, anyway? For chicks with just a simple cold, an easily applied remedy would be to spray a very fine mist like spray after they go to roost, of camphor and water, using a teaspoonful of camphor spirits to a pint of water, allowing the birds to breathe the fumes. This will break up influenza very quickly.—Mrs. Frank Metcalf.

### A CHICKEN'S COMB.

HAVE you ever stopped to think about the comb of a chicken?

If you are a breeder of thoroughbred poultry, of course, you have bred to a certain type of comb and have discarded all birds that did not meet those requirements. The comb, like the human ear lobe, is of all sizes and shapes.

We have, in the numerous breeds, endless graduations, from those fowls nearly combless to those having immense fleshy growths.

Of the many types, the principal are, the pea comb, rose comb, single comb, leaf comb, V-shaped comb, spikes and in some, portions or all of the comb displaced by growths of feathers or crests. The comb gives a regal appearance to some birds and lends a finish and beauty to the head. Climate, environment, nutrition, all have their effect on the growth of the comb. Birds or breeds originating in warm climates have the predisposition to larger growths of comb than those of more temperate latitudes.

The game fowls of today have not the comb developed to the extent that had their ancestors of several generations ago. The fighting instinct has been fostered and the comb was dubbed or cut off, being in the way. This practice, with heredity, has perpetuated that tendency to small combs. The same condition caused by crowding and disuse of the little toe of man is breeding that member of the human anatomy out of existence, say scientists.

A fowl's comb is well supplied with blood circulation and upon close examination will be found to contain minute glands, sebaceous in character. Thus, perhaps, they exert the function of regulating the temperature of the body to a great extent. Being moist they are very liable to frost bite.

The immense growth of comb of some fowls requires a great amount of nutrition to sustain its healthy condition and to repair waste. Thus, it is reasonable to presume that taking two fowls otherwise alike, but one with a large comb, the other with none; that the one with the comb would require more food to support that growth. Taking a flock of several thousand fowls the difference in the cost of maintenance might be considerable. Now, can the nutrition that formerly went into the comb be diverted to the producion of eggs or flesh?

If so, we will have an improved breed of fowls. Some writers tell us that the original fowl was a bird of five toes, as the Dorking.

Has the loss of that fifth toe improved the resulting breeds in any way?

The comb is an index to the health of the fowl to some fanciers.

It is also an index of both male and female upon arrival at puberty and undergoes a marked change.

I have an idea that if a breed of prolific layers, say the Leghorn, could be taken immediately after hatching, the minute, undeveloped comb cut away and the surface cauterized with silver nitrate or other caustic, that the comb could be obliterated by this treatment being continued several generations and supplemented by selective breeding. The question is, would the resulting fowl be an improvement over the present 200 egg layer?

Much might be said on this and kindred subjects. The 300 egg layer is not an impossibility, I believe, with the system of selection now in use.—American Poultry Advocate.

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Too many poultry yards look like bare prisons.

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From ten to twenty eggs are laid before a goose shows a disposition to sit.


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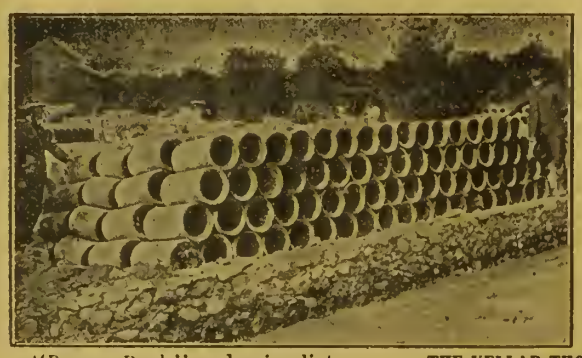

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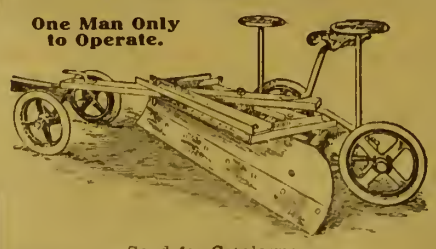

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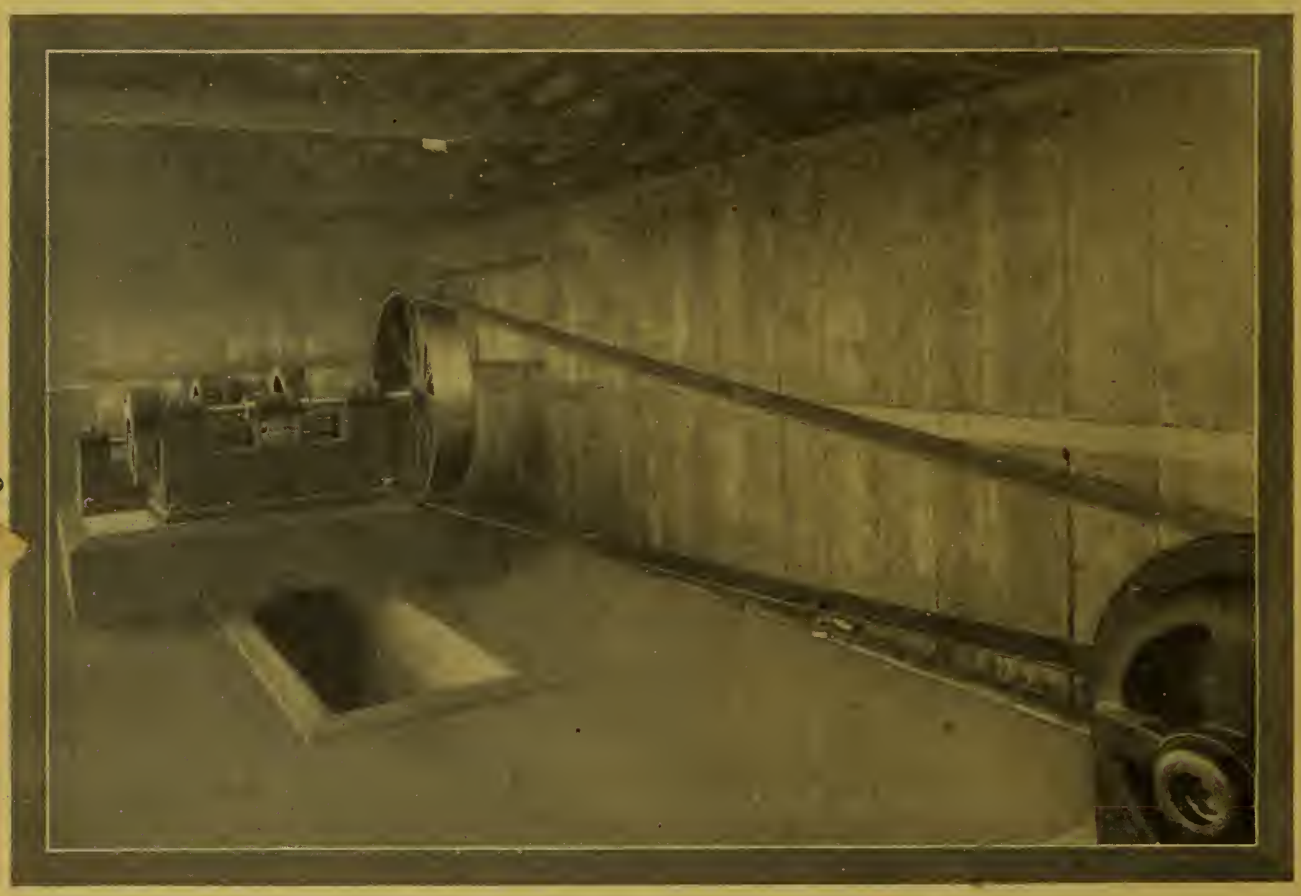

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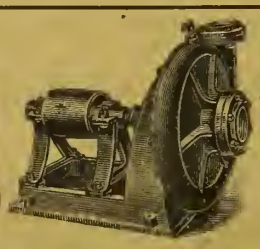

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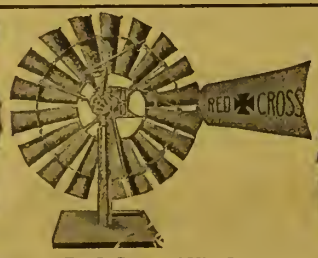


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# Forestry

## DRAINAGE OF IRRIGATED LANDS IN SAN JOAQUIN VALLEY.

THE San Joaquin Valley occupies more than three-fifths of the great central valley of California. Extending from the Tehachapi Mountains on the south to Suisun Bay on the north, it includes in its great expanse of comparatively level land a large part of the irrigable area of the State. The floor of this valley, with its foothill and mountain watersheds, is nearly equal in extent to the State of Indiana. The run-off from this basin reaches the axis of the valley through a number of nearly parallel stream channels from the Sierras and thence it is conveyed by the San Joaquin River to Suisun Bay, from whence it flows through the Golden Gate to the ocean.

For years after the discovery of gold in California the valley remained virgin soil. Bunch grass carpeted the swamp area of the trough of the valley; wild oats grew on the higher land near the foothills; but the large expanse of rich land between these borders supported only a scant growth of grass and alfilaria during the rainy season. During the greater part of the year the valley was too dry, barren, and devoid of green vegetation to attract even the herds of wild horses and cattle from the slopes of the Sierras. In the course of time, however, as the valley became settled, the grain raisers took advantage of the winter rainfall to raise profitable crops of wheat.

Irrigation development in this part of California dates back to the early seventies, when the people of Fresno county began to use a part of the water of Kings River for the production of fruits and grapes. Prior to 1875 a number of small canals were built to supply water to lands near Bakersfield, and in that year the Calloway Canal, belonging to the Kern River Land and Canal Company, was built to convey 500 cubic feet per second to lands on the north side of Kern River. The Modesto and Turlock irrigation districts, although organized in 1887, used little water until 1902. The practice of irrigation has gradually extended from these centers until at the present time there is probably more than 1,000,000 acres irrigated. The volume of water required for this area exhausts the flow of the stream after the spring floods have subsided, and in all probability one-third of the entire run-off from 16,000 square miles of Sierra watershed is diverted for irrigation.

The diversion of so much water every spring and summer from the natural channels and the spreading of it on the porous soil has greatly changed the natural conditions with regard to the water table. As a direct result of heavy waterings when the works were new, the subsoil dry, and water both cheap and abundant, the water table has risen in places with astonishing rapidity, a rise of 20 feet in four years not being uncommon. It now fluctuates between 1 and 8 feet below the surface, while, before irrigation was practiced, well water was available only by digging or boring to considerable depth. If the surplus thus accumulated could readily be drawn off through either natural or artificial channels, and the ground water thus prevented from rising too high, such a filling of the subsoil with waste water would be beneficial in any district having an average annual rainfall of 9 inches, as is the case in this locality. The drainage of this district, however, is very poor; many of the deep creek channels and ravines that drain the foothill area of the Sierras widen as the slope of the land decreases and disappear entirely before the trough of the valley is reached. Only those streams, which have their origins far enough up in the mountains to provide continuous flows, have the level of their stream beds far enough below that of the surrounding country to admit of the land being drained naturally into them.

While irrigation has raised the ground-water level in the better drained portions, it has seldom brought it near enough to the roots of vines, fruit trees, and alfalfa to do much damage. It is where the drainage is poor that the ground water has risen and caused destruction to deep-rooted plants and trees. The presence of water too near the surface reduces the area which is available as a feeding ground for plants, dissolving the alkali, which exists more or less in all the soils of the arid region, keeping the soil moist continu-

ally by capillary attraction, thus inducing a more rapid rate of evaporation and drawing up the alkali through the soil to the surface.—Farm Bulletin 217, "Drainage of Irrigated land in the San Joaquin Valley."

### FAKE EUCALYPTUS CONCERNS.

The Los Angeles Florists' and Nurserymen's Association held a session in Los Angeles last week giving a good hot roast to the methods employed by some promoters, and urging reputable papers and all who wish well for California to take a strong position against this abuse. The Cultivator has before this spoken of the action of this organization in this matter, referring to the fact that a Los Angeles morning paper had quoted from the claims of a promoter the statement that if the city of Los Angeles would plant eucalypts along the right of way of its aqueduct from Owens River, within ten years the twenty-five million trees there planted could be cut at a profit of one hundred millions. This "would wipe out the entire cost of the aqueduct and put seventy-five millions into the city treasury besides." The same article carried the idea that Mr. Mulholland, engineer in charge of the water works development, had endorsed the movement. As most of the route of the aqueduct is through a section too cold for most eucalypts, and the claim was absurdly inflated, it may be seen that the papers have been flooded with a quantity of hot air by these promoters in order to give them a pull with people who have money to invest.

The Association has no desire to discourage legitimate planting of eucalypts. Many of its members are seedsmen largely engaged in the introduction and gathering of the seed. Their business increases as the seeds are sold, but they realize that the permanency of their industry depends upon its reasonable handling. The immense profits offered by some of the promoters can only result in bitter disappointment that would in a few years bring about a reaction injurious to all branches of the enterprise.

Some of the most conservative of the promoters were present and endeavored to stem the tide somwhat, or at least to put a reasonable construction on the action of those who were endeavoring to foster the best interests of this state. One of these speakers insisted that the best land in California might well be taken for eucalyptus culture. This idea was opposed by the more conservative who did not feel that desirable land which is subject to vineyard and general fruit culture should be given up to the eucalyptus, but in any case, the miscellaneous planting of varieties which are as yet untried in this state, often in large numbers by some of these companies, may prove a disappointment.

Adaptability of different varieties to different sections was discussed. Mr. Theodore Payne gave an extended description of varieties known to do well under desert conditions, much along the line of a paper furnished by him to the Cultivator some months ago. Mr. Payne also gave a talk along the line of more conservative and truthful claims as to the profitableness of the eucalypts, which will be given in full in a later Cultivator.

The Association did not wish to be considered as opposing the use of the aqueduct strip for forestry purposes so far as such a scheme is advisable. Still more, the members felt that the afforestation of Griffith Park, a park of several thousand acres belonging to the city of Los Angeles, was worthy of careful consideration. They maintained that this project should be in the hands of a competent forester, and that such wild statements as that made by one Mr. Webb should be discouraged and not given place in reputable papers.

Another paper showing the great advantage of forest cover for our hillsides and the adaptability of eucalyptus for that purpose was given by Mr. T. P. Lukens of Pasadena, which will later appear in our columns as willl extracts from the address of Mr. Morris at the same meeting.

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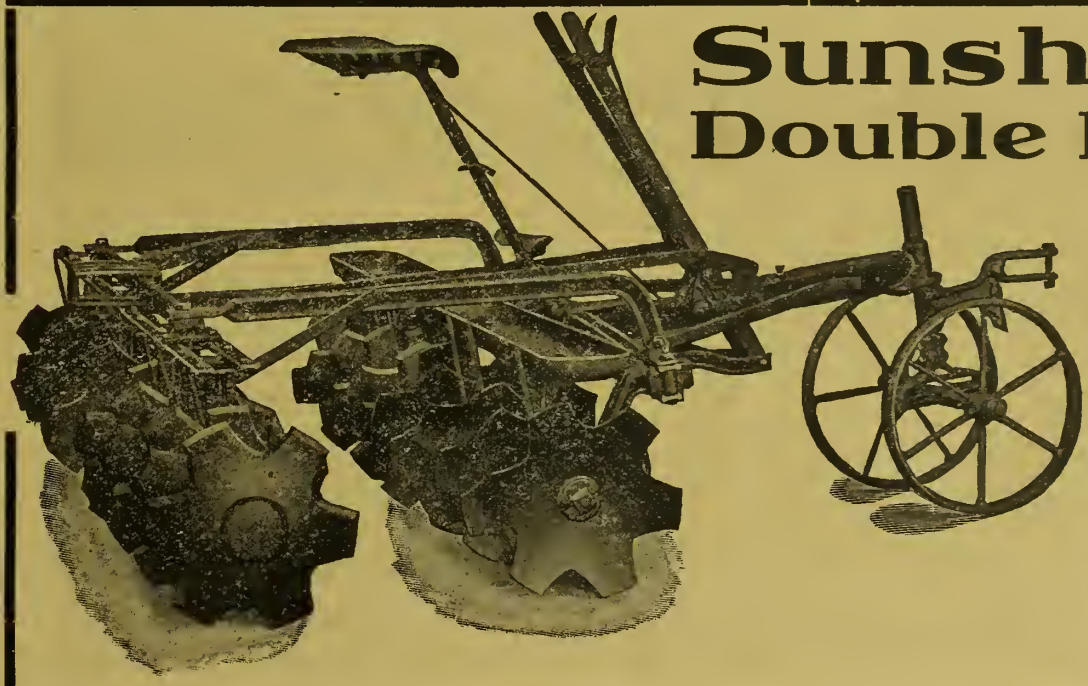

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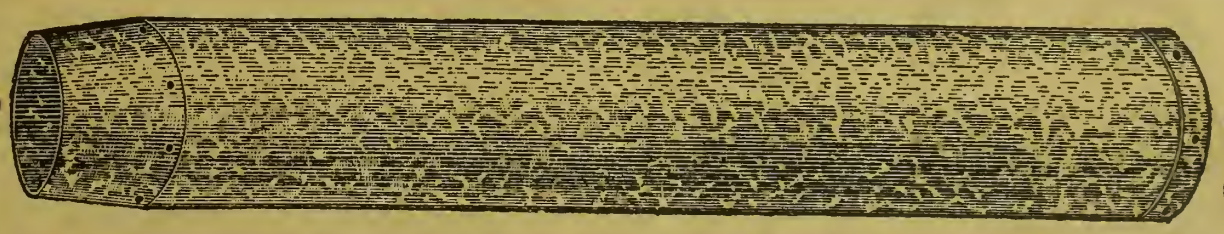

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Please mention five of your poultry friends names.

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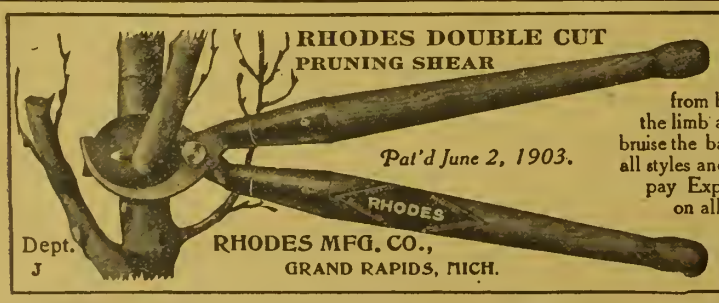


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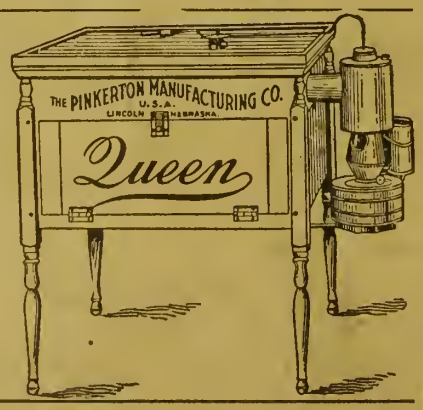


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When writing advertisers, mention Cultivator.


# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Frost Bitten Sorghum.

Is frost bitten sorghum injurious to stock?—I. W. H., Modesto.

The bulletins and books nowhere say anything about the loss of food values in frosted feeds. There must be some loss, however, of succulency and that is valuable for the milk cows. The danger in the frosted foods is in the decay that sets in so quickly. As soon as the frost passes out the molds come on and putridness comes on to make the food poisonous. This is one of the troubles with cold storage chickens and turkeys, if not cooked at once they cause ptomaine poisoning and bring on sickness.—M. E. S.

### Oat Hay for Milk Flow.

Will oat hay reduce milk flow.—B., Pasadena.

While oat hay is an excellent feed for animals it cannot equal alfalfa hay for the dairy cow as a milk producer. I should give the cow half and half, making the alfalfa the larger half. It is probably the love of a change that makes the cow leave the alfalfa hay for the oat hay.—M. E. S.

### Grafting Walnuts.

I wish to set out fifteen acres of walnuts of grafted variety. Where can I obtain black walnut trees of the best kind of seedlings or two year old stock to be set out this spring, trees being planted in orchard and later grafted? Would it be better to plant nuts in orchard form and wait a year or so longer. I note in recent Cultivator that trees fifteen years old have borne 150 pounds. Where can I find scions of such stock?—B. H., Ventura.

It is practically impossible to get scions of blight resistant, heavy bearing stock at this time. Shrewd walnut growers have awakened to the advantage of the grafting over their orchards to such trees, and these trees have been marked and scions engaged for a long time ahead. Often such a tree is in the orchard of the grower who is grafting over the remainder of his trees. In such a case he keeps all of his own scions. Nurserymen are also picking up desirable bearing trees. On account of this situation a large walnut grower remarked in this office recently that unless he had access to a blight resistant strong bearing tree to secure his grafts from at once, or could get good grafted trees from a nurseryman whom he knows to use care as to pedigreed stock, he would plant in orchard form one or two year old native black walnuts, leaving them to grow for two or three years, meantime keeping his eyes open for the most desirable nut he could find in California, then secure scions and graft over his trees as they stand in orchard form. Of course this presumes cultivation of a large body of land for a long time before it is brought into profitable production, but with interculture crops may be grown which will pay for the care of the land. We presume the nurserymen advertising in the Cultivator can supply the roots of the native black nut.

However, more particularly as to the bearing of 150 pounds per tree it must be borne in mind that no orchard can be made to average such production. A thousand pounds per acre is good. But 150 pounds has been greatly exceeded only by isolated trees which were not restricted in growth.

### Inoculating Alfalfa Seed.

You recently stated in the Cultivator that a half barrel of soil from old alfalfa field should be mixed with seed before sowing. How much soil will a half barrel inoculate? Do you sow the soil with the seed —J. C. Modesto.

We mix half a barrel of soil with a little less than half a barrel of seed. The soil is moistened and the seed stirred into it. The soil should be moist enough only to cling to the dry seed. This soil must be freshly taken up and mixed at once with the seed and sown at once, and covered at once. It will sow with the ordinary seed sowers or it will broadcast equally well. A little more soil will not matter but do not make it any less. The soil can be broadcast from a wagon over the land if the harrow is used to cover it at once. The soil must not be allowed to dry out nor be exposed to the light longer than can be helped as the bacteria are sensitive to sun and air.—M. E. S.

### Black Knot of Vines.

We have grape vines that have knots on them just above the ground. Is it black knot and what would you advise doing? Do grapes stop hens from laying? Where can we get Arabian alfalfa seed? —C. H., Turlock.

Many vines have black knot and we do not think it is a serious matter. We often have them knocked out while pruning and cover the spots with bluestone or Bordeaux mixture. When a vineyard is wintter sprayed with Bordeaux mixture these fungous troubles are rendered les hurtful. The cause of black knot is said to be the short pruning that causes the sap to burst out and then floating spores of fungi fall on the fresh spots of sap and root, there forming the characteristic black knot.

Small quantities of the Arabian alfalfa can be secured from the State Farm at Davis for experimental purposes. I do not know of any one having it for sale in commercial quantities as yet.

Fruit of all kinds fed in quantity stops hens laying with us. I presume it is because of the watery character and because they fail to get enough dry feed to secure a full diet.—M. E. S.

### Cow Peas.

My soil here in Tulare county is sandy and I wish to ask you what you think can be most successfully planted in young orchard for stock feed before plowing in the spring, and where may I get the seed? Where can I get Brabham cow peas mentioned in the Agricultural Year Book of 1908?—G. E., Dinuba.

Cow peas would not answer for


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**POULTRY SHOW DATES.**

**Petaluma, Dec. 8-11, 1909**—H. R. Campbell, Secretary, Petaluma.

**Los Angeles, Jan. 5-11, 1910**—Annual Meeting Poultry Breeders' Association of Southern California at Chutes Park. S. E. Salisbury, Secretary, Monrovia.

**San Diego, Jan. 11-15, 1910**—J. F. Goforth, Secretary, San Diego.

winter forage. They would not stand the cold of any part of California. While they are called "peas" it must be borne in mind that they are a bean and very sensitive to cold weather. Mrs. Sherman recently suggested that a mixture of barley or rye with a vetch makes excellent fodder. You may get the seed from any seedsman. Plant as for green manuring, instructions for which have been given in the Cultivator many times. The Department reports in the Year Book that Brabham peas were produced by a grower in South Carolina and that a few pounds of the seed were distributed in various sections of the south. Apparently none has yet come to California. An application to the Department at Washington might secure enough for a test, but this test should not be made until warm weather next spring.

**Milch Goats.**

What does a good milch goat cost? About how much milk will it give per day, and is there much cream on the milk?—G. B., Nordhoff.

Milch goats may be had at from $2 to $150, but for the ordinary grade goat $5 or $10 should buy a fairly good animal. A good imported breeder, however, comes high. We have seen goats of no particular breed which gave when fresh two quarts per day, but this only for a short time, dropping within a few weeks to perhaps a quart and holding that for several months. The milk strains now being introduced will give for long periods from three to four quarts per day. The milk is different from cow's milk in that the cream does not rise so readily It is richer in nutrients than in fat.

## CROP REPORTS.

The Crop Reporting Board reports: The preliminary estimate* of the average yield per acre of corn is 25.4 bushels, against 26.2 bushels as finally estimated in 1908, 25.9 in 1907, and 25.8 the average of the past ten years. The indicated total production is 2,767,316,000 bushels, against 2,668,651,000 as finally estimated in 1908. The quality is 84.2 per cent., against 86.9 last year.

About 3.0 per cent (79,779,000 bushels) of the corn crop of 1908 is estimated to have been in farmers' hands on November 1, against 2.7 per cent (71,124,000 bushels) of the 1907 crop in farmers' hands on November 1, 1908, and 4.1 per cent, the average of similar estimates for the past ten years.

The average weight per measured bushel of this year's wheat crop is 58.0 pounds, against 58.3 pounds in 1908, and 57.4 pounds, the ten-year average.

The average weight per measured bushel of this year's oat crop is 32 7 pounds, against 29.8 pounds in 1908, and 30.9 pounds, the ten-year average.

The preliminary estimate of the average yield per acre of potatoes is 106.5 bushels, against 85.7 bushels as finally estimated in 1908, 95.4 in 1907, and 89.6 the ten-year average. A total production of 367,473,000 bushels is thus indicated, against 278,985,000 in 1908. The quality is 88.9 per cent, against 87.6 last year, and 87.9 the ten-year average.

The average production of apples this year is 42.5 per cent of a full crop, against 43.4 per cent in 1908, and a ten-year average of 50.9 per cent.

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### WANTED.

WANTED—5 OR 6 H. P. PUMPING plant including deep well pump for a 10-acre farm. I like to get answers from farmers. H. MADLENER, 1571 East 22nd St., Los Angeles, Cal.

WANTED—HARDSHELL ALMONDS for seed purposes. Address, FANCHER CREEK NURSERIES, Fresno, Cal.

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WANTED—SUPERINTENDENCY OF orchard, by young man, married, fourteen years practical experience in Santa Clara valley. Understands cultivation, irrigation, spraying, drying, etc. E. C. MERRILL, Campbell, Cal.

WANTED—By one who has had several years experience as working foreman on citrus orchards a position in that capacity. An American, married, without children. Address RANCHER, care Cultivator.

### TREES WANTED.

FOR EXCHANGE—1000 PHOENIX Canariensis Palms, 1000 California Peppers, and 100 Black Acacias, 2 years old, in 4-inch pots. Want peaches, apricots, plums or apple trees, No. 1 stock. Address, H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

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SAGE HONEY, GUARANTEED ABSOlutely pure. One 5 gal. can, crated, f.o.b., $4.25, two 5 gal. cans, crated, f.o.b., $8.00. HENRY E. HORN. Riverside, Cal.

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CHOICE CRIMSON WINTER RHUbarb and Conover Asparagus one-year plants, from selected seed, for sale in large orders at a little over cost of digging expenses. Write for particulars. W. B. CURRIER, Sea Bright (Suburb of Santa Cruz,) Cal.

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BERKSHIRE PIGS—PERFECT TYPE, popular American strains. A few choice boars and sows. Herd Boar, Kingsclere Duke 111812. G. B. REEVES, Mountain View, Cal.

### DOGS.

COLLIE PUPPIES FASHIONABLY bred, a beautiful spayed bitch, two handsome males sable and white. G. B. REEVES, Mountain View, Cal.

### HOMES FOR CHILDREN.

HAVE YOU A BOY? IF NOT, LET us send you one. We want country homes for boys of all ages. Arrangements to suit. CHILDRENS' HOME SOCIETY, 2414 Griffith Ave., Los Angeles. Cal.

### RUBBER STAMPS.

SEND IN YOUR ORDERS FOR RUBber stamps, dies, stencils, etc. Catalogue on request. F. W. HOPKINS PTG., CO., 641 S. Main St., Los Angeles, Cal.

The sugar factory at Corcoran closed its season late in August this year with a total run of 12,000 tons of beets which gave an output of 26,000 bags of white sugar. The Visalia factory, which is owned by the same corporation, opened at the time of the closing of the Corcoran factory and closed October 21st. This factory sliced 9,280 tons which made 20,500 bags of sugar.

The bean yield of the San Joaquin Valley will not exceed that of last year, but prices are higher and growers will reap more net profit.

### MISCELLANEOUS.

THE ANCHOR EGG SEPARATOR works perfectly; no well regulated hotel or household can afford to be without it." So says Delmonico's Chef. Send ten cents or ten names of persons keeping poultry, and we will send one postpaid. Or for 25 names we will also send postpaid "THE POULTRY MANUAL" by those high authorities, F. L. Sewell and Ida R. Tilson, profusely illustrated. WEST COAST MILL CO., 705-709 So. Griffin Ave., Los Angeles, Cal.

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PRODUCER TO CONSUMER. RAISINS, loose Muscatels, (2 and 3 crown) in 50-lb boxes, 5 cents, F. O. B., Etiwanda, good quality, send for sample. A. H. DUGDALE, Etiwanda, Cal.

AN OLD ESTABLISHED NURSERY, deciduous and other trees; estimated saleable stock, $4000; orders now in; on account of other business must sell. J. H. WILLS. Real Estate, East Auburn, Cal.

### POULTRY.

FOR SALE—EGGS AND DAY-OLD chicks from R. I. Reds (Tompkin's Strain), S. C. and R. C. Black Minorcas (Northrup Strain), White Minorcas. Spring stock sold. C. U. CHAMBERLIN, Los Gatos, Cal.

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THE "20TH CENTURY COOP" IS THE best, moderate cost house, for practical, progressive or intensive poultrymen. Blue-prints, specifications, photograph of coop $1.00. MRS. A. J. BADGER, Oxnard, Cal.

PIT GAMES—SOUTHERN AND GRADE Japs. O. L. CRANE, Route 3, Santa Rosa, Cal.

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SPECIAL — FOR SALE, HOLSTEIN bulls, two old enough for service and a number of yearlings. Also a few calves that are small enough to crate Julianas, De Kols and all the strains for which this herd has been famous are represented. The only cows to hold World Records raised in the state were bred on this ranch. Same blood still represented largely in the herd MINNEWAWA STOCK FARM, Fresno Cal.

REGISTERED JERSEYS — YOUNG bulls—Golden Lad strain, heavy milking dams. G. B. REEVES, Mountain View, Cal.

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STRAWBERRY PLANTS—FINE ONES. Pedigreed thoroughbreds, grown and restricted by scientific propagation, enormously productive. Same price as common stock. 60c per 100, $3.00 per 1,000 crated. From sixty varieties I have selected three of the "very best," Jessie, Marshall and Dollar. J. A. POWELL, R. D. 1, Ripon, San Joaquin Co., Cal.

FOR SALE—STRAWBERRY PLANTS. A 1, Arizona, Jessie, Mammoth berry, Logan berry plants by hundred or thousand. F. L. WING, Box 342, Upland, Cal.

STRAWBERRY PLANTS FOR SALE—Vigorous and well rooted plants. Brandywine variety considered standard for coast. $2.50 per 1000. Address JOS. L. OSBORN, Gridley, Cal.

FOR SALE—50,000 CHOICE MAGOON strawberry plants, 500 Italian prune trees 2 years old, 2,000 American gladioli bulbs. F. FOLAND, Santa Cruz, Cal.

STRAWBERRY PLANTS FOR SALE. Magoon, $5 per 1,000; Brandywine, $2.50 per 1,000. Apply to F. E. TAYLOR, Soquel, Cal.

### FARM LANDS FOR SALE.

ALFALFA RANCH, 160 ACRES, NEAR Bakersfield, California. Here we offer you a rare chance to secure a highly improved home place. A good six-room house, large barn, bunkhouse, sheds and corrals. 60 acres good stand of alfalfa, balance farmed to grain crops. Water right includes one-third interest in good ditch and a complete pumping plant which is run by electric power, and develops enough water to irrigate the quarter section independent of the ditch. Good oiled road, ¼ mile from postoffice, church, school and blacksmith shop. All stock and implements necessary to run the ranch. $100 per acre; $6,500 cash, balance easy terms. KERN CITY REALTY COMPANY, L. S. Harman, Mgr., Kern, Cal.

FOR SALE—MY RANCH CONSISTING of 80 acres, 30 acres in fruit and 10 acres in alfalfa, rest pasture with good buildings and drier outfit, is located 5 miles southeast of Visalia with R. F. D., lots of water to irrigate flowing though the land; fruit mostly consists of French prunes and peaches. For further information inquire at SAM'L A. HUTH, Visalia, Tulare Co., Cal.

FOR SALE—PLACER COUNTY LANDS, Banner Fruit County, California. $5000 for 40 acres land, 14 acres in bearing orchard, principally choice varieties plums, good house, 7 rooms, bath, barn, school near; 2½ miles from Auburn. $4500—20 acres in famous Newcastle country; 1-3 deciduous fruit shipments, house and all necessary farm implements and stock. J. H. WILLS, East Auburn, Cal.

FOR SALE OR EXCHANGE—140-ACRE apple, berry, vegetable, and poultry ranch near Santa Cruz, Cal. WILLIAM RICHARD, 438 River St., Santa Cruz, Cal.

I MAKE A SPECIALTY OF ORANGE and alfalfa ranches and exchanges. 826 Main St., Room 9, Riverside, Cal. N. R. BELL.

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FOR SALE—MOTORS AND GENERATors. Perfect condition. We buy, sell, rent and exchange. BAILIE & BRANDT COMPANY, 943 & 945 North Main St., Los Angeles.

FOR SALE—SECONDHAND WINDmill, tanks, pumps, engine at one-half new price. Special, 12 H. P. Webster, fine running order, $250; $150 cash, balance six months or horse of equal value. Also 5-H. P. fine pumping plant including deep well pump, house and 10,000 R. W. tank a snap at $250. See us and get prices. DEMMITT CO., 120 N. Main St., Los Angeles, Cal.

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FOR SALE—DEEP WELL PUMP AND Cylinder, 117 Bruno St., Los Angeles, Cal.

### TREES.

FOR SALE—1500 EUREKA LEMONS, 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. B. WARNER, Santa Ana, Cal.

FOR SALE — STRONG OUTDOOR grown rooted cuttings. Send for 1-2-3 cent list. Other plants. Fine lot Blue Gums qt. tins—3 to 4 ft. GEM NURSERY, Los Gatos, Cal.

WRITE TO US FOR SPECIAL PRICES on first-class prune or peach trees, or berry vines. State number wanted. GRIDLEY COLONY NURSERY. Gridley, Cal.

FOR SALE—100,000 SEED BED ORange trees. For prices and terms address, L. Z. HUNTINGTON, Anaheim, Cal.

ORANGE SEED BED STOCK, EXTRA fine. Also Valencia Orange trees. Prices very reasonable. ROBERT HANSEN, Anaheim, Cal. R. R. No. 4.

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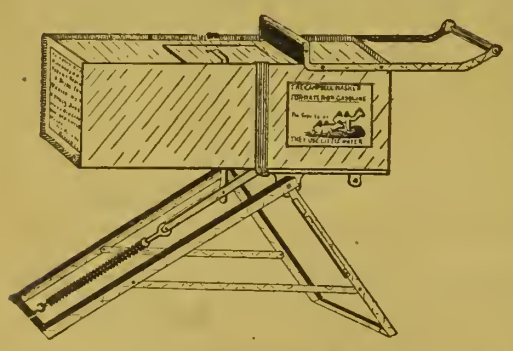

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# Household Department

## THE MISSION BELLS OF MONTEREY.

O bells that rang, O bells that sang
Above the martyr's wilderness,
Till from that reddened coast-line sprang
The Gospel seed to cheer and bless,
What are your garnered sheaves today?
O Mission bells; Eleison bells!
O Mission bells of Monterey!

O bells that crash, O bells that clash
Above the chimney-crowded plain,
On wall and tower your voices dash,
But never with the old refrain:
In mart and temple gone astray!
Ye dangle bells! Ye jangle bells!
Ye wrangle bells of Monterey!

O bells that die, so far, so nigh,
Come back once more across the sea;
Not with the zealot's furious cry,
Not with the creed's austerity;
Come with His love alone to stay,
O Mission bells; Eleison bells!
O Mission bells of Monterey!

—Bret Harte.

## WHEN HIRAM GOT MAD.

DID I ever tell you about the time Hiram got so mad? Well, in all the thirty-five years of our married life, and the fourteen years of our courtin' thrown in, I've never seen him so riled up. Why, he was so mad that he stood out by the woodpile, right in front of my pantry window where I could see and hear him, and said "Darn" three times. And they was the awfulest, most solemn darns you ever heard. Not one of your quick squeaky darns, but a deep drawn out 'way down in his throat.

I knew then that something would happen, and when next day Hiram had the rheumatism, I felt it was a just punishment sent direct from beaven, and I told him so as I rubbed his back and also rubbed in a good moral talking, too. It seems to affect him more, somehow, as if the moral lesson worked in the blood, and the harder I rubbed the better it was for him.

Every man has to have these talkings, and every woman has to find out the best time to give 'em. Some women wait 'til their husbands have bad a good dinner and are feeling kind of spoonylike and then tackle 'em, but I always take Hiram wben I'm a rubbing bis back.

But I set out to tell you of tbe time he got so mad. It was tbis way. It was planting season and Hiram had just finisbed a patch of peas. He had spent the day before in fixing up bis hen coops, and he told me that everything was so tight that he'd bet a cooky that that game hen couldn't get out. Old Speckle wanted to set and Hiram didn't want her to, so he let ber out, but land, old Speckle never did any harm anyway.

The one we call the game hen is a little, small boned tbing that caused Hiram no end of trouble. She would do more damage in ten minutes than an ordinary flock would in two hours. And you couldn't keep ber shut up. Some way or other she would get out. A visitor had told us he tbougbt she was a game hen, and it did look some like a game of tag to see sbe and Hiram a-chasing round the yard.

Hiram often said he'd kill her, but sbe wasn't worth eating, she was so small, and she laid a good egg, so he let her live. But several times he had gone so far as to say, "Dumb that dumb hen."

That reminds me of the first time I heard Hiram say anything like that. We had been keeping company for about three years and Hiram always walked home with me from singing school. Now my mother was very fond of cabbage, but wouldn't eat fried onions, but father just doted on friend onions, but didn't care a pin about cabbage, so motber compromised by frying a mess of onions the same day as she had cabbage, and Thursday was the day she had tbat dinner. It also was the night of singing school, and Hiram and I always went.

Well, one night Hiram wasn't there, so after class I walked home with the others. Pretty soon someone came along and said, "That you, Mirandy?" and there was Hiram.

I wonder how he knew me, for it was so dark that you couldn't tell a feather bed from a darning needle, so I asked him kind of soft like, 'cause I thought it was love that told him, and he said, "Oh, I thought it was you, 'cause I smelt the cabbage and onions." Well, I was mad, and we had some words. Hiram used language that I wouldn't repeat. No, not for the world would I repeat it.

But to continue. Hiram had just finished those peas and came into the house to wash up. Of a sudden, out he dashed and I was just in time to see him race round the barn after that game hen. And such a race as they had! Over the fields and through the orchard and back around the barn again. I saw that Hiram was mad. There was murder in his eye, so to speak. On his way he bad picked up an ax and I knew that the game hen would have to be extra spry to save her life this time.

When they came to the woodpile she seemed to stumble, and in an instant Hiram had her on the block and her head was on the ground. Poor old hen!. I felt sorry for her a-laying there in the dust when just before she had been a-scratching and a-picking Hiram's peas as happy as a ben could be. But such is life. Probably she never thought when she swallowed that last pea, or perhaps it was a fat, juicy worm, that it would be her last. Funny, ain't it?

And Hiram he felt sorry, too, now that the deed was done. I could tell by the look on his face, kind of long and solemn like, as if he was getting ready to make a prayer.

Just then, or perhaps a little after, we heard a joyful cackle, and goodness! if he hadn't gone and killed old Speckle. She had been calmly setting on a corncob under tbe woodpile and I suppose tried to get out of the way when she saw the game ben and there was that game hen up on tbe woodshed roof a-flapping her wings and saying triumphantly:

"Cut-cut-cut-ca-da-cut."

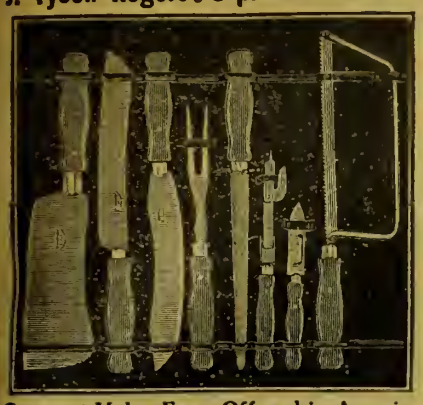
"Cut-cut-cut-don't you dare cut!"—Boston Post.

## CARE OF GLASS AND CHINA.

NO part of the home reflects the true spirit of the housekeeper more than the dining room, and there is nothing that proclaims good management more tban a dainty, neatly laid table, and the only requirements for an attractive table are clean linen and polisbed disbes. Before washing glass dishes, rinse out every particle of milk, fruit or anytbing that is colored, as hot water will sometimes drive the coloring matter into the glass and ruin its brightness. Nice dishes should never be scraped with a knife, as it will leave unsightly little scratches on tbem tbat can never be removed, and tbere is nothing better for cleaning tbem than bits of old soft cloth or soft tissue paper. Vinegar cruets and water bottles may be cleaned perfectly with crushed egg shells. Put them in the bottle with plenty of bot suds and let tbem remain over nigbt, then sbake the bottle vigorously and rinse out witb clear hot water. Cbina and glass may be kept shiningly clean by washing the pieces tbrough warm suds in which a little borax is dissolved. A little of the borax should be used in tbe rinsing water, and the washing, rinsing and drying should be done as quickly as possible. The finest dishes can be washed in this way witbout any injury to the painting or glaze, as the borax softens the water and gives a high polish to them. If the dish towels are boiled in the borax suds at least once a week they may be kept soft and wbite as long as tbey last.

Glassware can be mended witb melted alum and a good cement, for china is made of Plaster of Paris and

**J. Tyson Rogers 8-p. Kitchen Set**



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**Cleaver,** handy size for cutting chicken, fish and meat bones and chopping vegetables (saves hacking up your knives). **Bread Knife, Carving Set 3 p.** Scimiter and swaged blade and Steel of emery and carborundum mixed—fine for sharpening (will not break). **Universal Can Opener,** opens any can round or square. **Patent Apple and Potato Parer** (cuts a thin peeling). **Meat-Saw** for heavy bones. This set is made of selected **cutlery-steel** with Ebonized Handles, well riveted and is **guaranteed indefinitely.** We will send new goods immediately for any piece found defective. Our goods stamped plainly "J. Tyson Rogers." Look out for cheap counterfeits—not riveted. Price $2.50 (worth $5.00) in a neat box. **Leatherette Velvet-lined** Case for a wedding gift $2.50 extra. If you wish sent by mail, prepaid, add **40 cents for postage.** Send money order. Agents wanted. County rights given to capable men of clean habits.

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An inexpensive, strong, white light. Absolutely safe, convenient and serviceable. 100 candle power at less than ½c an hour. **No Smoke, No Odor.** Price only $7.50. Order today or send for circular. **We pay express charges and guarantee satisfaction.**

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**F. Brownsberger, President**


Don't try to do too many things at once.

a thick solution of gum arabic. Common dishes can be mended with the gum which is found on cherry trees, but all mended dishes should be set away long enough for the cement to become thoroughly hardened before using. Dish washing is not such a disagreeable task when one is supplied with the right implements for expeditious and thorough work, and when everything is at hand you will find the labor is more than half done. —M. A. Y.

### THE YELLOW JACKET.

The yellow jacket is an inhabitant of North America. He lives in old rotten stumps and in the ground where it is most convenient to find him. He is a self-reliant little cuss, and about the best scrapper in the world for his size. He is better known to small boys than he is to men, who don't want to know him. No one knows where he came from or what he's here for. He was discovered many years ago, but history does not state by whom. He has been discovered many times since. The first time your Uncle Tobey discovered him he was half way up his pants leg. It was at a picnic, and that yellow jacket spoiled a good deal of fun. The yellow jacket wears black and yellow stripes around him. He also wears a stinger. The stinger is located on the south end when the jacket's head is turned north. It is his weapon of offense and defense. It is small, but is always in good working order. I have had some experience with both, and would rather undertake to shake hands with the hind foot of a mule than to "monkey" with the business end of a yellow jacket. If the yellow jacket has any mission on earth besides affording small boys an opportunity to be venturesome, he has never made it known to the public. A boy who has grown to be, say, 14 years old, and has never been stung with a yellow jacket, must be a very tame and gentle boy. Most boys are not satisfied until they do get stung. I have known gangs of boys to hunt yellow jackets' nests just for the fun of them— and being stung.

When a yellow jacket stings you the sensation is like running a red-hot needle into you about an inch and three-quarters deep. The only time yellow jackets are in good humor is when they are eating the juice of an apple or drinking cider. They are regular cider fiends. They will allow you to roll them around most any way when they are bumming you for all the cider they can drink, without stinging you. It is at a picnic or a campmeeting that the yellow jacket is in his fighting glory. Before deciding on a place to hold a picnic, the ground should be carefully searched and the picnic located as near the yellow jacket's nest as possible. It will enliven the proceedings and add to the excitement of the occasion. There'll be enough small boys around to keep things stirred up.—Ex.

### CONTRAST.

One sang of sorrow, one without a care;
And many said, with pitying eyes and dim,
"How deeply hast thou suffered, friend!" nor knew
It was their grief which found a voice in him.

Years passed, and all the anguish of his songs
Became his own, yet caroled he of bliss;
Men said, "How gay, how joyful, is thy soul!"
He made reply, "I sing of what I miss."

—Century Magazine.

"Since you got married you are late every morning," complained his employer.

"Well," explained the breathless clerk, "I have to button up the ashes and shake down a shirt waist and carry out the furnace every morning."

"Old Cush landed in this country in his bare feet ten years ago. Now he's got millions." "You don't say! Why, he's got a centipede skinned to death, hasn't he?"

"See the shadow the book throws across my waist? It's like the shadow caused by the metal burner or tank of your light—with this difference, I can take away the book and get direct, shadowless light. See the point?"

**MORE LIGHT**

—where more light is needed—that's what The Angle Lamp gives. It is oil lighting at its best with the smoke, odor and bother eliminated by new methods. It throws upon book or table a direct shadowless light delightful to read or work by.

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resembles a handsome gas chandelier in its appearance and in its convenience. It is lighted and extinguished like gas. May be turned up full or turned low without odor. Safely filled while burning. Requires filling once or twice a week. Floods every corner of the room with a splendid light. Costs about 3 cents per week. Made in 32 varieties, a style to suit every need and taste. Call or write for catalog.

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without high shelf. With high shelf, just as shown in the cut. $19.97; large oven six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

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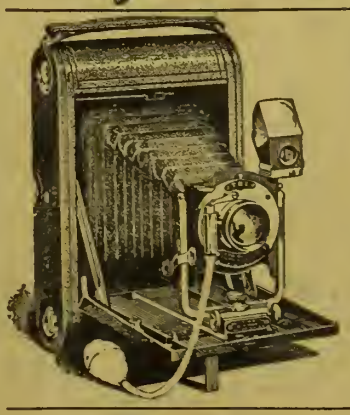

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Mail Orders Solicited

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Nov. 23, 1909.

### Butter.

Quotations unchanged on butter though market is very strong.

Produce Exchange wholesale quotations are as follows with actual selling price to the trade 2½c advance on Extras.

| | |
|---|---|
| Creamery per roll | 67½@70 |
| Eastern Creamery per roll | 67½ |
| Cooking | 26 |
| Ladles | 26@27 |

### Cheese.

| | |
|---|---|
| Northern fresh | 19@19½ |
| Domestic Swiss | 23 |
| Imported Swiss | 32 |

### Eggs and Poultry.

Eggs have advanced satisfactoriiy during the week. Case counts now command 48 cents with firm market.

Paying price f. o. b. L. A. is:

| | |
|---|---|
| Local candled | 51@53 |
| Case count buying price | 48 |
| Eastern fresh | 35 |
| Storage | 27@30 |

Dealers pay for live poultry f. o. b. L. A.

| | |
|---|---|
| Hens per pound | 18@19 |
| Roosters | 9@18 |
| Roasters 3 lbs. and up | 18@19 |
| Spring chickens | 18@20 |
| Turkeys | 20@24 |
| Geese | 10@12 |
| Ducks | 10@12 |
| Squabs | 1.25@1.75 |

### Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

| | |
|---|---|
| Hogs from 175 to 200 pounds | 7¾ |
| Prime steers | 4½ |
| Heifers | 3½@4¼ |
| Calves per pound | 5 |
| Sheep ewes per head | 3.75@4.00 |
| Lambs per head | 3.75@4.00 |
| Wethers | 4.50@5.00 |

### Potatoes.

Wholesale prices are:

| | |
|---|---|
| Yellow Sweets per ctl. | 1.60@1.75 |
| Burbank local | 85@1.00 |
| Highlands | 1.00@1.25 |
| Salinas | 1.65@1.75 |

### Onions.

Wholesale quotations:

| | |
|---|---|
| Silverskins local lug | 1.00 |
| Yellow Danvers | 1.25@1.35 |
| Australian Browns per sack | 1.25@1.35 |
| Garlic | 7@8 |
| Yellow Globes | 1.25 |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Artichokes locals | 85 |
| Beets, sk | 80 |
| Beans, string | 4@5 |
| Brussels sprouts per lb. | 8@9 |
| Bell peppers | 5@7 |
| Cabbage, per sack | 1.25 |
| Celery per doz | 50@60 |
| Cucumbers per box | 50@60 |
| Cauliflower per doz | 85@1.00 |
| Carrots per sk | 80 |
| Egg plant per lb | 3@5 |
| Green onions per doz bunches | 20@25 |
| Hubbard squash | 1@1¼ |
| Lettuce choice per crate | 1.00@1.25 |
| Leeks | 35@40 |
| Oyster plant | 35@40 |
| Okra per lb. | 8@10 |
| Peas per lb | 5@6 |
| Parsley, per doz. bunches | 15@25 |
| Pumpkins per lb. | 1½ |
| Parsnips | 40 |
| Radishes per doz. | 20@25 |
| Rhubarb, crimson winter | 1.25 |
| Spinach per doz | 17½ |
| Turnips sk | 80 |
| Tomatoes lugs | 40@50 |

### Citrus Fruits.

| | |
|---|---|
| Navels | 3.00 |
| Valencias | 3.50 |
| Grapefruit | 2.00@3.50 |
| Lemons | 2.25@3.50 |
| Limes, halves | 1.50@2.00 |

### Fresh Fruits.

Wholesale prices on the market are:

| | |
|---|---|
| Bellefleurs | 1.25@1.50 |
| Winesaps | 2.75@3.00 |
| Pearmains Red | 1.20@1.50 |
| Jonathans | 3.00 |
| Smith Cider | 1.50 |
| Casabas per crate | 1.70 |
| Cantaloupes Jumbos | 2.50@3.00 |
| Christmas melons | 2.00 |
| Figs | 85@1.00 |
| Grapes lug box | 90@1.25 |
| Persimmons lb. | 8@10 |
| Peaches per box | 1.50 |
| Bartletts | $2.50@3.00 |
| Quinces per bx. | 1.25 |
| Raspberries | 10 |
| Blackberries | 9 |
| Strawberries | 8@10 |
| Watermelons per lb. | 1½ |

### Dried Fruits.

Wholesale prices are:

| | |
|---|---|
| Apricots | 12@15 |
| Evap apples fy per lb | 10@11 |
| Figs box | 1.25 |
| Peaches | 7@8 |
| Pears | 11@12 |
| Plums pitted | 12½ |
| Nectarines | 9@10 |
| Prunes | 4½@10 |

### Beans Dried.

Wholesale prices are:

| | |
|---|---|
| Limas per ctl | 4.40@4.50 |
| Pink No. 1 | 4.25@4.35 |
| Black eyes | 4.50 |
| Lady Washington | 4.25@4.50 |
| Small white | 540@5.50 |
| Garvanzas | 4.50. |
| Lentils | 7.00 |

### Nuts.

The following walnut prices are not the wholesale, but car lot quotations established by the walnut association.

| | |
|---|---|
| No. 1 soft shell | 11½ |
| No. 1 hard shell | 11 |
| No. 2 soft shell | 7½ |
| Almonds IXL per lb. | 15@17 |
| Pecans polished | 12½@16 |
| Peanuts Eastern | 7 |
| Peanuts, Cal | 5@5½ |

### Honey.

Wholesale quotations:

| | |
|---|---|
| Extracted water white | 7½@8 |
| Extracted light amber | 5½@6 |
| Comb Water White | 18 |
| Comb. white | 15 |
| Beeswax | 25 |

### Hay.

Buying prices f. o. b. cars L. A. are:

| | |
|---|---|
| New Barley hay | 10.00@14.50 |
| Alfalfa, local | 12.50@14.00 |
| Alfalfa Imperial | 11.00@13.00 |
| Northern | 12.00@13.50 |
| Wheat hay | 11.00@13.50 |
| Tame oat | 11.00@15.50 |

### Grain.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Wheat new per ctl | 1.95@2.00 |
| Kaffir corn | 1.85 |
| Corn | 1.75 |
| Egyptian corn | 1.80 |
| White oats | 1.80 |
| Seed Rye | 2.10 |
| Popcorn | 3.75 |

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Cracked corn | 1.80 |
| Cracked wheat | 2.10 |
| Shorts | 1.85 |
| Bran | 1.60 |
| Cocoanut cake | 1.35 |
| Cocoanut meal | 1.85 |
| Cottonseed meal | 1.25 |
| Oil cake meal | 1.85 |
| Feed meal | 1.85 |
| Cracked wheat | 2.10 |
| Rolled Barley | 1.60 |

## San Francisco Markets

SAN FRANCISCO, Nov. 22, 1909.

### Butter.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

| | |
|---|---|
| California extras per lb. | 32 |
| California seconds | 29 |
| Storage extras | 30 |
| Ladles | 25½ |

### Cheese.

| | |
|---|---|
| California flats new | 15@19 |
| Cal. Young America fy new | 17@19 |
| Young American Oregon fy | 18½ |

### Eggs and Poultry.

Eggs have recovered some of their loss of last week and now stand at 53, on extras all other grades same as last week. Market firm.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

| | |
|---|---|
| Fresh ranch extras | 53 |
| Firsts | 45 |
| Seconds and thirds | 28@30 |
| Storage extras | 31 |
| Hens per doz | 5.00@9.00 |
| Roosters per doz | 4.00@7.00 |
| Fryers per doz | 5.50@6.00 |
| Broilers | 3.00@4.50 |
| Geese per pair | 1.50@2.50 |
| Ducks | 4.00@9.00 |
| Turkeys | 21@24 |
| Pigeons young | 1.00@3.50 |

### Live Stock.

San Francisco prices gross weight:

| | |
|---|---|
| Steers | 3½@4½ |
| Cows and heifers | 2@3½ |
| Hogs | 4½@7½ |
| Calves per lb | 4@5½ |
| Milk lambs | 6 |
| Wethers No. 1 | 4¾@5 |
| Ewes No. 1 | 4@4¼ |

### Potatoes.

Wholesale market quotations:

| | |
|---|---|
| River White crates | 65@90 |
| Salinas | 1.25@1.35 |
| Oregons | 90@1.00 |
| Sweets crates | 75@1.25 |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Bell peppers per box | 50@75 |
| Cucumbers per box | 50@75 |
| Celery, doz | 75@1.00 |
| Chill peppers per box | 40@60 |
| Egg plant per box | 50@75 |
| Green peas per lb | 4@7 |
| Okra | 75@90 |
| Rhubarb per box for bay | 1.25@1.50 |
| String beans | 4@7 |
| Summer squash | 75@1.25 |
| Tomatoes | 50@1.00 |
| Wax beans | 3@6 |
| Lima beans | 6@8 |
| Garlic | 4@6 |

### Onions.

| | |
|---|---|
| Yellow onions | 85@1.00 |

### Citrus Fruits.

| | |
|---|---|
| New Navels | 1.75@2.50 |
| Tangerines | 1.00@1.50 |
| Grapefruit | 1.00@3.25 |
| Lemons | 2.50@4.70 |
| Limes | 4.00@5.00 |

### Fresh Fruits.

| | |
|---|---|
| Bellflowers | 1.00@1.50 |
| Newtowns | 1.25@1.75 |
| Figs blk box | 50@75 |
| Isabellas | 1.00@1.25 |
| Other varieties | 50@65 |
| Peaches per lug box | 50@1.00 |
| Pears, Winter Nelis | 1.25@1.75 |
| Pears, cooking, box | 75@1.00 |
| Persimmons | 75@1.00 |
| Pomegranates | 50@75 |
| Quinces | 40@75 |
| Huckleberries per lb. | 8@12½ |
| Raspberries per chest | 8.00@11.00 |
| Strawberries, chest | 12.00 |

### Dried Fruits.

| | |
|---|---|
| Santa Clara prunes | 2⅜@3 |

1 cent premium for larger sizes.

| | |
|---|---|
| Apricots per lb. Royal | 10@12 |
| Peaches—Choice ..5½; Fancy | 7½ |
| Apples evap | 8@9 |
| Pears | 6@9¼ |
| Figs | 3¼@5 |
| Nectarines | 5@6 |
| Plums | 7@8 |

### Raisins.

RAISINS—1909 crop, f. o. b.: Fancy Seeded, 16-oz. cartons, 5@5¼c; do, 12-oz, 4½c; do. choice, 16-oz., 4½@4¾c; choice, 12-oz., 4c; 50-lb. bxs. Loose Muscatels, Standard, 4-crown, 4@4¼c; 3-crown, 3¼@3½c; 2-crown, 2½@3c; Seedless Thampson, unbleached, 3c; do, bleached, 7@7½c; Sultanas, unbleached, 2¼c; do, bleached, 4@4½c; Muscatels, unbleached, 2¼c; Dried Grapes, nominal; London Layers, clusters, 2-crown, 85@90c; 3-crown, 90@$1; 4-crown, $1.30@1.50; 5-crown, $1.75@2; 6-crown, $2@2.50.

### Nuts.

| | |
|---|---|
| Walnuts soft shell No. 1 | 13@13½ |
| Walnuts S. S. No. 2 | 8@8½ |
| Walnuts, hard shell | 13 |
| Almonds '09 N. P. U | 13 |
| Almonds '09 nonp | 14½ |
| Almonds I X L | 14 |
| Pecans | 15@17 |
| Chestnuts | 14@15 |
| Peanuts | 5@6 |

### Beans Dried.

| | |
|---|---|
| Limas | 4.15@4.25 |
| Pink | 3.40@3.70 |
| Black eyes | 3.90@4.10 |
| Small white | 4.50@4.75 |
| Large white | 3.00@3.25 |
| Red Kidneys | 4.50@5.25 |
| Garvanzas | 2.50@3.50 |
| Bayo | 4.50@5.00 |
| Horse beans | 2.00 |
| Cranberry | 3.50@3.75 |

### Hops.

| | |
|---|---|
| Hops 1909 crop | 20@23 |
| Hops 1908 crop | 14@17 |
| Old | 8@12 |

### Honey.

| | |
|---|---|
| White comb | 14@15 |
| Lighht Amber | 10@12 |
| Extracted W W | 7½ |
| Extracted light amber | 6½@7 |
| Beeswax per lb. | 25@29 |

### Hay.

Scott, Magner & Miller say:

Arrivals of hay for the past week have been 2806 tons, as against 2344 tons for the preceding week, an increase of practically 500 tons. We are not surprised at this, in fact we have been looking for receipts to increase considerably, and were it not for the shortage of cars which still exists at railroad points, we do not hesitate to state the the receipts would be much larger than they are.

We find that country demand, not only from San Francisco, but from the main hay sections from whom we have received reports in the last few days, is exceedingly light, and as several of our correspondents have informed us, not one-third of what they were shipping last season at this time.

The export demand to Hawaii, which is our principal shipping point, is less than it was last year at the same time. The feeding of cane-tops in the islands is becoming more general, which cuts down the hay demand very materially.

The alfalfa hay market is uninteresting, conditions being about the same as heretofore.

Straw is in light supply, as well as demand.

This week's quotations are:

| | |
|---|---|
| Choice wheat hay | 18.50@19.50 |
| No. 1 wheat or wheat & oat | 16.50@17.50 |
| No. 2 wheat or wheat & oat | 14.00@15.00 |
| Choice tame oat | 16.00@17.50 |
| Other tame oats | 13.00@15.00 |
| New crop wild | 10.00@14.00 |
| Stock hay | 8.00@9.00 |
| Alfalfa | 10.00@13.00 |
| Straw | 55@65 |

### Grain.

| | |
|---|---|
| Wheat No. 1 | 1.77½@1.80 |
| Barley No. 1 | 1.40@1.46¼ |
| Oats white | 1.57½@1.65 |
| Oats gray | 1.62½@1.65 |
| Rye new crop | 1.85@2.00 |
| Cal sm round corn | 1.75@1.80 |
| Alfalfa seed | 16@18 |
| Mustard brown | 3¾@4½ |
| Millet | 2½@3 |
| Flaxseed | 4 |
| Broom corn seed per ton | 23.50 |

### Feed Stuff.

| | |
|---|---|
| Bran per ton | 29.00@30.00 |
| Feed cornmeal per ton | 37.00@38.00 |
| Cracked corn per ton | 38.00@39.00 |
| Ground barley per ton | 31.00@32.00 |
| Rolled oats per ton | 36.00@37.50 |
| Oil cake per ton | 38.50@40.00 |
| Cocoanut cake per ton | 25.00 |
| Middlings | 36.00@37.50 |
| Mixed feed per ton | 28.00@33.00 |
| Shorts | 31.50@33.00 |

## Citrus Market

LOS ANGELES, Nov. 23, 1909.

Much difficulty has been experienced in the disposal of the earlier picked navels because of complaint of green fruit. While the fruit has been fairly sweet, the color has been against it and the trade has manifested a fear that it would be unsaleable. There have been no losses and as a rule it has commanded $1.85 to $2.00 f. o. b. California points. Excepting coloring and texture the general quality has been good.

Lemons are still going forward as rapidly as picked and cured and good prices are prevailing.

**SHIPMENTS.**

Total shipments of citrus fruits from Southern California points 307 cars, of which 151 were oranges and 156 lemons. To same date last year total was 270 cars of which 51 were oranges and 219 lemons.

Total shipments from Tulare county and northern districts 613 cars of oranges for the season.

---

NEW YORK, Nov. 19.—Two cars Valencias and two cars lemons sold. Market very steady on both oranges and lemons. Cold, cloudy, snowing.

| VALENCIAS— | Avge. |
|---|---|
| Old Mission, Chapman | 6.05 |
| Old Mission, Chapman | 4.65 |
| Golden Eagle, Chapman | 3.80 |
| San Rafael, H. W. Bailey | 3.95 |
| San Rafael, H. W. Bailey | 3.45 |
| San Miguel, H. W. Bailey | 2.75 |

LEMONS—Protection, $4.50; Buckeye, $4.20; Blue C, $5.20; Red Shield, $4.85; Green Crown, $4.60.

---

BOSTON, Nov. 19.—No sale of California oranges and lemons held here today.

---

PITTSBURG, Nov. 19.—No sale of California citrus fruit here today.

---

ST. LOUIS, Nov. 19.—Cool. Market steady on lemons. This market is glutted with Florida oranges. Two cars lemons sold.

| LEMONS— | Avge. |
|---|---|
| Las Fuentes, Crocker Sperry | $3.95 |
| Harbor, Chas. Mohnike | 4.10 |
| Montecito, Crocker Sperry | 3.30 |
| Ramona, Chas. Mohnike | 3.35 |

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CLEVELAND, Nov. 19.—One car lemons sold. Market higher. Cool.

| LEMONS— | Avge. |
|---|---|
| Watchuma, T C C Ex. Lemoncove | $4.45 |
| Justasgood, T C C Ex. Lemoncove | 4.45 |
| Lemoncove, T C C Ex, Lemoncove | 4.45 |

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PHILADELPHIA, Nov. 19.—Eight thousand boxes Florida oranges and grapefruit sold. Oranges $1.50 to $2.75, average $1.70. Grapefruit $2.40 to $3.45; average $2.80.

No California citrus fruit sold.

---

NEW YORK, Nov. 19.—Eight cars of oranges, four cars of lemons and one mixed car sold. Market stronger and higher on oranges; very steady on lemons. Weather cloudy, mild.

| VALENCIAS— | Avge. |
|---|---|
| Sapphire, C. C. U | $2.15 |
| Pointer, A. C. G. Ex. | 2.65 |
| Golden Pheasant, Ind., F. C. | 2.60 |
| Old Mission, fancy, Chapman | 6.65 |
| Old Mission, choice, Chapman | 5.10 |
| Golden Eagle, Chapman | 3.80 |
| Purity, Tustin P. Co. | 3.65 |
| Old Oak, Tustin P. Co. | 3.30 |
| Lucky, Tustin P. Co. | 2.70 |
| Old Mission, Chapman | 5.65 |
| Old Mission, choice, Chapman | 5.25 |
| Golden Eagle, Chapman | 3.95 |
| Purity, Tustin P. Co. | 4.10 |
| Old Oak, Tustin P. C. | 3.50 |
| Lucky, Tustin P. Co. | 2.85 |
| Our Beauty, S. M. L. C. Assn. | 2.90 |


Warranted to Give Satisfaction.

**Gombault's Caustic Balsam**

**Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sors Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

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A SAFE-GUARD IN YOUR HOUSEHOLD.

FOR SORE-THROAT, RHEUMATISM NEURALGIA, SPRAINS, BRUISES SWELLINGS, POISONOUS BITES LAMENESS IN BACK-SHOULDERS AND LIMBS, CUTS, OLD SORES STIFF JOINTS, CORNS, BUNIONS CHILBLAINS, ETC.

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SAFE-PROMPT-SUCCESSFUL TREATMENT FOR THE MANY AFFLICTIONS OF THE HORSE & OTHER DOMESTIC ANIMALS.

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PROVEN THE BEST BY 40 YEARS OF TEST.

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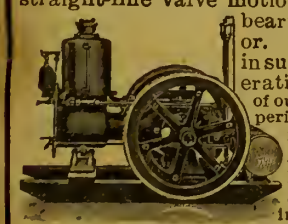
**Stickney Gasoline Engines ARE THE BEST**

**Why?** Because of the outside igniter, modern open cooling system, straight-line valve motion and ball-bearing governor. Thousands in successful operation because of our years of experience in building the best. Send for our Free Catalog and our Catechism telling fifty-seven reasons why



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Seven sizes: 1½ to 16 H.P. Stationary and portable.

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**Laying Pullets** We have 500 of them on hand every day. We are the largest and oldest dealers in laying hens in the city. The bulk of good poultry passes through our hands. Deal with us directly and you get your birds the cheapest.

**Baby Chicks** We have the oldest and finest hatchery in Los Angeles. Our chicks are known all over as the best hatched chicks. Send for our catalog. Prices on thirty varieties. **Mammoth Hatchery, P. Cook**
**3017 S. Main St. Los Angeles, Cal.**


| Premium, Benchley F. Co. | 3.85 |
|---|---|
| Superior, Benchley F. Co. | 3.05 |
| LEMONS— | Avge. |
| Protection | 4.75 |
| Buckeye | 4.45 |
| Conquerer | 3.85 |
| Trail | 4.50 |
| Canon | 4.60 |
| Our Beauty | 4.10 |
| Lotengo | 4.80 |
| Whittier | 4.50 |
| Pico | 4.10 |

CLEVELAND, Nov. 22.—One car of Valencias sold. Market higher. Raining.

| VALENCIAS— | Avge. |
|---|---|
| Sierra Vista, Randolph F. Co. | 3.10 |
| Dulce | 2.40 |

ST. LOUIS, Nov. 22.—Raining. Market firm on good lemons. Two cars sold.

| LEMONS— | Avge. |
|---|---|
| Choice Santa Paula, C. F. A. | 3.65 |
| Sunside Santa Paula, C. F. A. | 2.85 |
| White Cross, Limoneira Co. | 3.70 |
| Excellent Santa Paula, C. F. A. | 4.15 |
| Standard Santa Paula, C. F. A. | 2.00 |
| Loma, Limoneira Co. | 3.20 |

PHILADELPHIA, Nov. 22.—One car of lemons sold; also 8000 boxes of Florida oranges.

| LEMONS— | Avge. |
|---|---|
| Pioneer, Pioneer F. Co. | 5.20 |
| Choice | 5.10 |
| Standard | 4.85 |

Florida oranges, $1.30 to $2.80; average, $1.75.

Grapefruit, $2.25 to $3.70.

BOSTON, Nov. 22.—Six cars sold. Cloudy. Market very strong.

| LEMONS— | Avge. |
|---|---|
| Las Fuentes, Crocker Sperry | 4.15 |
| Rey, S. T. Fernando | 5.40 |
| Urchin, S. T. Fernando | 3.90 |
| Greyhound, S. A. Ex. | 4.90 |
| Clubhouse | 4.55 |
| Montecito, Crocker Sperry | 3.80 |
| Tunnel, S. T. Fernando | 4.40 |
| Pet, s. A. Ex. | 5.25 |
| Protection, Ohio L. Co. | 4.90 |
| VALENCIAS— | Avge. |
| Robusta, A. H. Pechappa | 2.90 |
| NAVELS— | Avge. |
| Blue Banner, Sutherland F. Co. | 2.35 |
| Hiawatha | 1.95 |

PITTSBURG, Nov. 22.—One car sold. Market very strong on lemons. Nine cars of Florida oranges sold; average, $1.85. Weather favorable.

| LEMONS— | Avge. |
|---|---|
| Lemoncove, T. C. C. Ex., Lem. | 4.25 |
| Justasgood, T. C. C. Ex | 4.45 |

CINCINNATI, Nov. 22.—Warm. Market steady on oranges; stronger on lemons and nine cars of Florida oranges sold. Florida Brights, $1.60 to $2.25; Russets, $1.50 to $2.10.

| LEMONS— | Avge. |
|---|---|
| Pet, S. A. Ex. | 4.60 |
| Greyhound | 4.30 |
| Duck | 3.35 |

### CUTTING PRICES.

With Apologies to "Hamlet"

To cut or not to cut. That is the question.
Whether it is not better in the end
To let the chap who knows not the worth
Have the business at cut-throat prices, or
To take up arms against his competition.
And by opposing cut for cut, end it.
To cut—and by cutting put the other cutter
Out of business—'tis a consummation
Devoutly to be wished. To cut—to slash—
Perchance myself to get it in the neck—
Aye—there's the rub; for when one starts to meet
The other fellow's prices, 'tis like as not
He's up against it good and hard.
To cut and to slash is not to end the confusion,
And the many evils the trade is pestered with
Nay, nay, Pauline; 'tis but the forerunner
Of debt and mortgage such a course portends.
'Tis well to get the price the goods are worth
And not be bluffed into selling them for what
So-and-so will sell his goods for.
Price cutting doth appear unseemly
And fit only for the man who knows not
What his goods are worth, and who, ere long,
By stress of making vain comparison
'Twixt bank account and liabilities.
Will make his exit from the business.

—Anon.


# Who Wants Baby Chicks?

We can supply 2500 chicks per week of the following kinds: Barred Rocks, Rhode Island Reds, White Rocks, Black Minorcas.

The price is $14 per 100, crated ready to ship.

White and Brown Leghorns are $12 per 100 ready to ship. 150-Chick Size Fireless Brooder only $4 if you order some chicks to come in it.

They are very light and chicks will ship safely anywhere in them. 50-Chick Size $2.50. Send for our chick and hatching egg catalog. It's Free.

**Pioneer Hatchery Company**

*112 East Eighth Street, Los Angeles, California*



**WOOD PIPE**

Made from California Redwood or Selected Washington Douglas Yellow Fir

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Machine Banded Stave Pipe Continuous Stave Pipe

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SAN FRANCISCO OFFICE—318 Market St.
PORTLAND, OREGON—210 Wells, Fargo Bldg.

Prices, specifications, hydraulic data and general information furnished upon request.


## Business Notes

### OPPORTUNITY FOR DAIRYMEN.

An opportunity to secure an excellent string of dairy cows in full milk is offered by two separate auctions of first class dairy cows. These auctions are under the management of Messrs. Briggs & Weber, Auctioneers, 225-227 E. Sixth St., Los Angeles. The first auction is on Friday, December 3rd, at the corner of Slauson and Western Avenues on the Southwestern outskirts of Los Angeles. At this auction there will be 65 of the very best selected Jersey and Holstein cows, 35 heifers from the best of the cows, and also three Holstein bulls from 18 months to three years of age. These cows have been the property of V. Paggi.

The other auction is at the city of Downey on the old Kern Ranch. The stock in this case is the property of Messrs. C. R. Berry and M. E. Parshall. At this sale there will be 50 first-class dairy cows, one thoroughbred Jersey bull, three young work horses, and 40 tons good barley hay. Take the Santa Ana car and get off at Clearwater.

Messrs. Briggs and Weber have the reputation of handling dairy cows in such manner that will make this an opportunity for all dairymen. Of course, as usual they will provide a fine free lunch at noon time.

The West Coast Mill Company have found it necessary, because of increasing trade, to build another addition to their Poultry Feed Mill and Warehouse., Cor. Griffin & Alhambra Ave. This is the second time they have had to enlarge since they went into their new plant about 18 months ago. Their trade is growing rapidly, and as they say, good goods and right prices are telling the story.

A Colorado farmer relates the following in reference to the use of Hubbard squashes in that state: "A neighbor claims he can finish the fattening of hogs on Hubbard squashes in one-half the time he can with corn, while with pumpkins he can only make them hold their own. He says he can finish a hog in fair condition in six weeks on about one ton of squashes, making a 200-to-250 pound hog. He cuts the squashes and feeds them raw, and says the hogs clean up everyting, shell and all." The squash apparently has a fattening value greater than that of the pumpkin, and both pumpkins and squashes are worthy of more attention in swine husbandry than has been generally given them.—From Coburn's "Swine in America."

Do not keep the brood sow too closely confined. A reasonable amount of exercise is necessary in order to strengthen her muscles and give tone to her system.—Orff's Review.

The old sow that has been a good breeder and a good mother should be retained. Keep her as long as she can eat well.

The pig that is making the best gains has a certain kind of prosperity in his tail.


**Feed your Chicks Coulson's Special Dry Chick Food**

and watch them grow.

Compare it with other chick foods on the market and see the variety of clean wholesome grains and seeds it contains.

Free samples and descriptive booklet on application to

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**Germain Seed & Plant Co.** Distributing Agents for Southern California.



**Buff Orpingtons** Did you know that **Sullivans' "Commonwealth Strain"** won the **Highest Honors Ever Accorded a Single Variety** in competition at the late State Fair? They did. We also won three out of five First Prizes at the late World's Fair show at Seattle, also best display. At San Jose show Nov. 13 we won eight of a possible 15 class ribbons, three out of five **First Prizes, Silver Cup** for **Best Display** and **Seven** Club Specials. Our show record has been climbing steadily for 10 years; our prices are no higher. Write for record and prices of stock.

**Mr. & Mrs. W. S. Sullivan**
**GARDEN VALLEY POULTRY YARDS**
5 minutes from depot. **Agnew, Cal.**
State V. P. Nat. S. C. B O. Club for Cal.



# Auction

ADMINISTRATOR'S SALE

**100 COWS, HEIFERS AND HORSES.**

To close the estate of Elizabeth E. O'Connell, deceased, we will sell the following described personal property, on the O'Connell Ranch, 1½ miles Northwest of

**NORWALK**

Take Whittier electric cars to Los Nictos. Teams in waiting until 10 a. m.

**Wednesday, Dec. 1st**

at 10 o'clock a. m.

50 head first class dairy cows, Jerseys, Holsteins and Durhams, large milkers, fresh and coming fresh, all young and in fine condition, all fine dairy and family cows.

30 head fine 1 and 2-year-old heifers, coming fresh. One 2-year-old Durham bull. One 1-year-old Jersey bull. 4 head good draft mares, weight 1200 to 1300 lbs. each, 7 to 10 years old, in foal, all good work stock.

4 head work mules, weight 900 to 1100 lbs. each, 7 to 10 years old. 6 head draft colts, 1, 2 and 3 years old, from 800 to 1100 lbs. each. 1 thoroughbred Poland China sow.

Implements: Plows, harrows, wagons, mowers, rakes, 2 sets single harness, 2-seated surrey, new; 1 phaeton, light milk wagon, hog panels, milk cans, etc.

20 tons barley hay—baled. 12 cords gum wood.

All the above must and will be sold to the highest bidders on above date to close the estate. No limit or reserve. Free lunch at noon. Terms, cash.

G. O'CONNELL,
Administrator.

RHOADES & HULL, Aucrs.
Successors to Rhoades & Rhoades
Office 830-832 South Main St.
Phones: F 1259, Main 1259.

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Will keep right on { Pumping / Pumping / Pumping

YEAR IN AND YEAR OUT.

Using least fuel
Requiring fewest repairs
Lifting most water

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Builders of Gas and Distillate Engines and Hoists.
Engineers and Constructors of Power Plants of every size and for every purpose.
Sole manufacturers of the Nix-Frost Crude Oil Gas Producer. (Patented). "The Cheapest Power on Earth."

**Factory and Main Office:**
**Los Angeles, California**

Northern Branch:
San Francisco, California

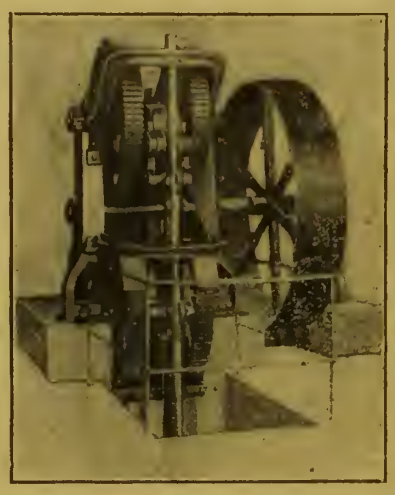
# The Smooth Running, Noiseless Pomona Deep Well Pump

It is thirty to fifty per cent more efficient than any centrifugal pump ever made. No high speed bearings to cut out. All breakages and rod troubles eliminated.

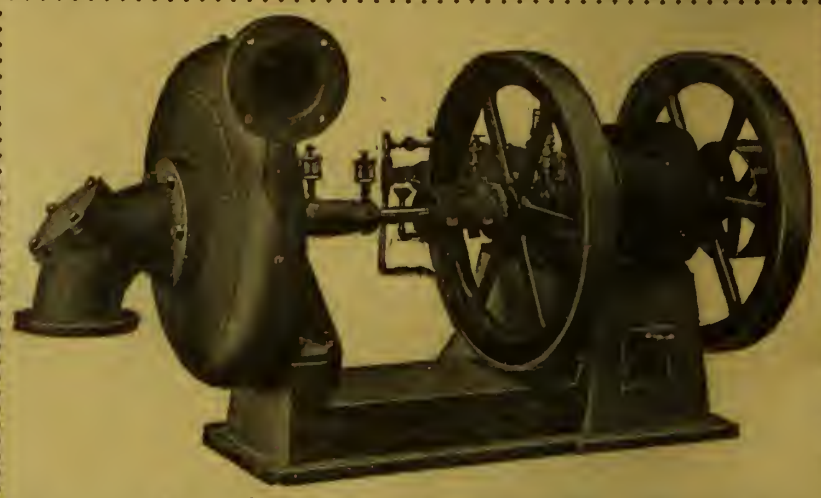
This is the only pump you can afford to buy if you consider your own interests. Hundreds of satisfied users testify to this.

Used by the best water companies who know what a good pump is.

Send for a catalog or what is better come to POMONA and let us show you some of these plants in operation.



**POMONA MANUFACTURING CO.**
**POMONA, CALIFORNIA**



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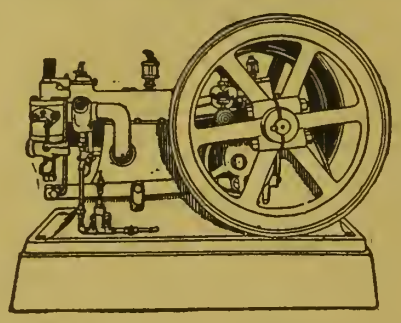
**LOS ANGELES** 212 N. Los Angeles St.
**SPOKANE, WASH.**
**SEATTLE, WASH.**

# Alamo and Union Distillate Engines

**New Stock just Received**

**Strong**

**Economical**



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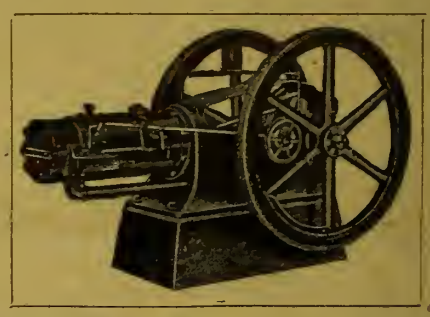

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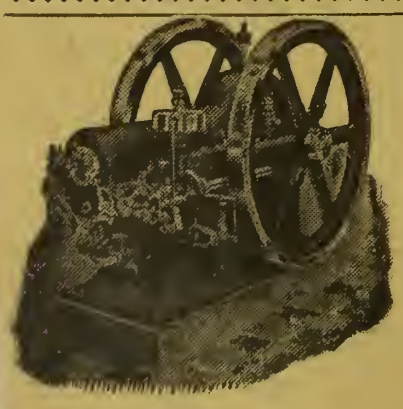

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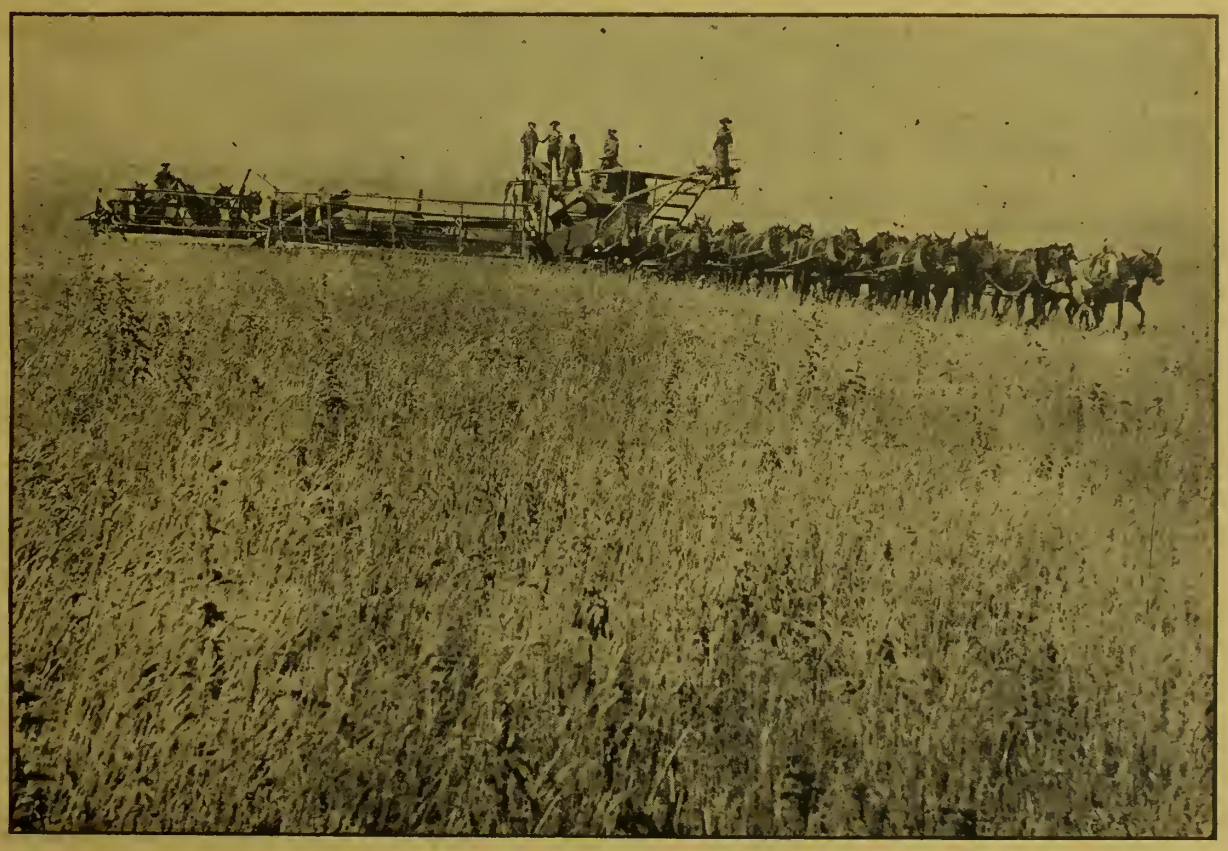

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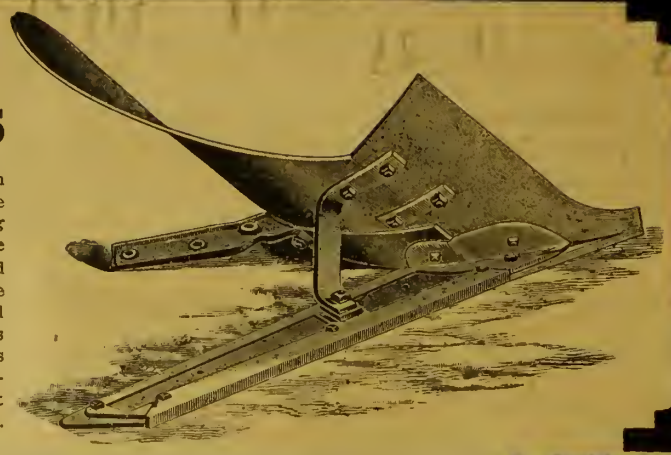

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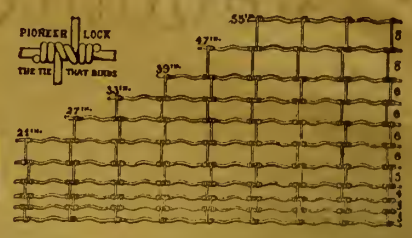


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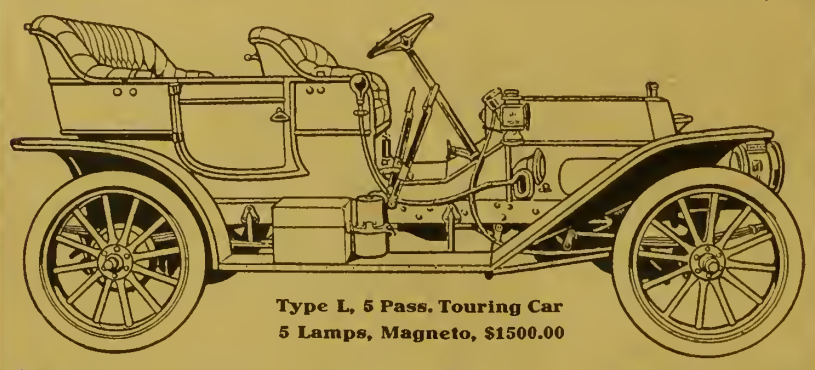

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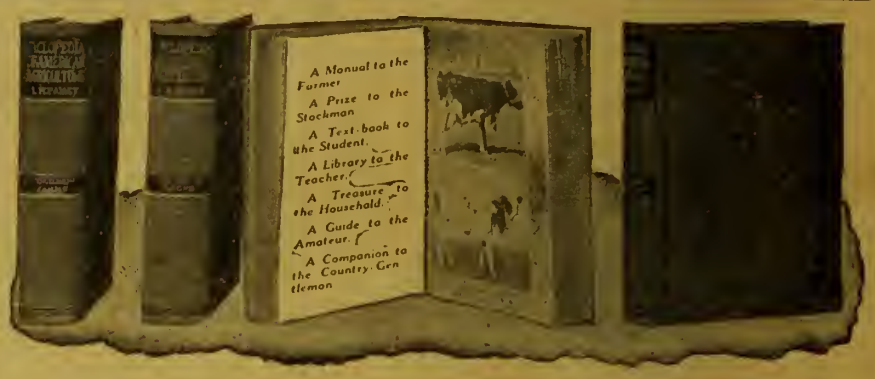
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# California Cultivator

Vol. XXXIII—No. 23 Los Angeles, California, Thursday, December 2, 1909 Subscription $1 a Year

# Deep Well Pumping Great Advantage to Irrigation

Written for the California Cultivator by Edward B. Kientz of Niles

THIS is a day of conservation and development, conservation of our natural resources, our forests to protect our rivers and valleys, development of our vast areas of arid and semi-arid country by better and improved methods of agriculture.

In that vast empire within our borders west of the Mississippi is the answer to the oft repeated question of the necessary greatly increased production to support our rapidly growing propulation. And how is this development to be brought about? By irrigation.

Irrigation is so closely related to development in the west that it has become synonymous with it. But while its value as a wealth producer in greatly increased yield has been conclusively demonstrated throughout this vast empire, the country itself is only partially developed as compared with the ultimate results to be attained through the judicious use of our water supply by irrigation. This condition should induce publicity as far as possible to any method of irrigation which has been found practical by thorough trials.

Hence the publication of this article which deals with one phase of the subject of irrigation and is written for the benefit of those interested in lands so situated that they can only be irrigated by deep well pumping or where this method for any reason is preferred to other systems.

A great deal of our land can and is being irrigated by the gravity system, but in all districts supplied by this system there are large areas of fertile land, that, owing to the contour of the land, cannot be irrigated with gravity water, but have an abundant supply of water below the surface within a practical depth or lift of deep well pumps.

Deep well pumping, as the term is generally used and accepted, means pumping from a source below the surface beyond suction limit. Until recent years, if water could not be secured within suction limit it was not considered a feasible proposition to attempt to pump water for irrigation purposes. But it had been shown what could be done by irrigation and this was an incentive for those owning land that could not be supplied by other systems to irrigate also. Their only alternative was deep well pumping. Hence a great need was felt for a pump that would deliver an irrigating head from below suction limit to or above the surface efficiently and make irrigation, under these conditions, practical and profitable. Such a pump, it was fully realized, would prove of unknown value in developing arid and semi arid lands.

The ordinary type of double deep well plunger pump was found to be impracticable for this work because each bucket completed its stroke at the instant the other commenced and both were on the dead center at the same time, causing a stoppage in the upward flow of the water and the necessity of starting the long water column from rest twice in each revolution of the pump, and that both clappers must close under the full pressure of the water column. The load on the buckets changing instantly from nothing to full load twice in each revolution caused a heavy shock or water hammer on the moving parts, and not only shortened the life of the pump, but a large part of the useful power was wasted in starting the water column from rest at the end of each stroke.

To overcome this obstacle in deep well pumping it was realized that it would be necessary to construct a double plunger pump that would produce a continuous stream of water from deep bored or dug wells efficiently. To meet this demand a type of pump was designed since known as the double plunger continuous flow deep well pump. This type of pump overcame all the foregoing objections by keeping the water column in constant motion upwards, without stopping at each stroke, thus permitting high piston speed and great capacity, a saving of the power lost in starting the water column from rest and eliminating the shocks on the moving parts.

With this perfection of suitable machinery by which deep well pumping for irrigation was made sucessful and extremely profitable, this system of irrigation has come to be preferred even where gravity water is available. The reasons for this are: a person owning his own irrigation plant is more independent, he can irrigate when he wants to and when he can do so to the best advantage; the water is pure and free and there is no danger of scattering the seeds of obnoxious weeds and plants, which are liable to ruin any crop; there is no loss from evaporation and seepage.

The first thing to consider in deep well pumping is an adequate water supply usually procured from bored wells. All over our western country there is a large supply of water below ground which only needs to be brought to the surface to transform the barren plains into gardens of productiveness.

The wells should be bored large for two reasons; first,—it gives more area for the water to get into the well. Second,—a larger cylinder can be used which will deliver a greater amount of water. The largest diameter of cylinder that can be used in a 10-inch well is 8-inch, using 9-inch O. D. Casing for column pipe and having a capacity of 300 gallons per minute. A 9-inch cylinder can be used in a 12-inch well using 10-inch O.D. casing for column pipe with a capacity of 400 gallons per minute, or a 11-inch cylinder using 12-inch O.D. casing for column pipe in a 14-inch well with a capacity of 600 gallons per minute.

The well should be cased and casing perforated at each water strata, either before or after the casing is put into the well. It is much the better plan to perforate the casing in the flat before it is rolled.

As will be noted from above, in all installations of deep well pumps, the pump column pipe in well connecting cylinder in well to powerhead at surface is of larger inside diameter than the cylinder. This allows the valves to be pulled for repair without taking the pump column out of the well, and the large pipe also reduces the friction to the minimum. The pumps deliver either at the surface or through long pipe lines at high heads above the surface, as desired.

The hydrostatic pressure of the water is 33 1-3 feet, that is water will rise to a height of 33 1-3 feet, in a perfect vacuum, at sea level, but in practice, with the most perfect of suction pumps, it is necessary to place the pump within 20 feet of the water level when pumping, in order to operate. This is impractical when the water level is at a great distance below the surface.

A complete deep well pump consists of the powerhead carrying the driving pulley, gearing and piston rods; the cylinder and valves; the inside and outside pump rods connecting the buckets with the powerhead at the surface, the guides on the outside rod, and the pump column connecting the cylinder with the pump head at surface; the check valve, discharge elbow, discharge pipe, air chamber, pipe line above surface and other fittings as needed.

The powerhead is placed on the surface of the ground and may be driven by steam or gasoline or electric motor, belt driven or direct connected. The driving pulley is furnished to suit the type and speed of the motive powers, using a friction clutch pulley when driven by engine or jack shaft, or a plain tight pulley when driven by electric motor.

The cylinder is placed at a point in the well where it is always submerged and requires no priming. In all cases the work is done in one lift from water level to point of discharge, no matter how deep the water level below the surface or how high the point of discharge.

It is very hard to give the exact cost of irrigation by pumping because of the varying conditions, and I do not know that I could do better than to explain what deep well pumping has done for California. I merely mention this state because I am more familiar with it than others. and what has been accomplished in California by this method can be repeated all over our western country.

There being an abundance of water, the use of deep well pumps has made gardens out of sections of California that for many years were looked upon as only good for grazing and for raising grain on a wet year. Land in these sections 8 to 10 years ago sold at $5 to $8 per acre; it is now selling at $150 to $200 per acre unimproved, brought about by the fact that they know by boring wells and installing deep well pumps their water supply is assured and their land valuable and productive.

If this had not been demonstrated by the use of deep well pumps, this land would still be worth only $5 to $8 per acre, as it would still be only grazing land. Orange orchards in California, 5 to 6 years old, that have been properly cared for, produce from $150 to as high as $500 per acre per year, and the grower in some few instances has received as high as $1000 per acre, but this of course is exceptional. It is not uncommon to net $300 per acre from a six year old orchard and it would not be looked upon as anything to attract particular attention. I merely mention these facts to show what irrigation, through deep well pumping, has done for one state in our great west.

In most districts in California where deep well pumps are employed, the water stands all the way from 50 to 300 feet from the surface, and in many installations of deep well pumps the cylinder is placed 300 feet below the surface and water has been pumped very successfully from these depths. Until recently water at this depth would not be considered as available for irrigation purposes, but it is thought nothing of at

(Continued on Page 550.)

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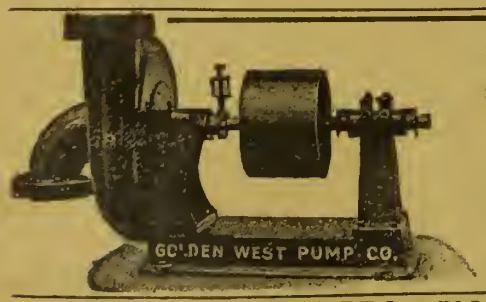


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# Citrus and Sub-Tropical Fruits

## KEEPING QUALITIES OF LEMONS.

TO ANYONE who has carefully examined lemons as they come freshly cut from the orchard or as they hang on the tree it is clear that the fruit is oftentimes extremely variable in size, shape, and texture. It is quite generally held that lemons of a certain form are likely to prove good keepers, while those having other forms are liable to decay early. The unsymmetrical, usually undersized lemons grown in the bright sun are thought to be poor keepers, while those from the portions of the tree where the fruits are well enveloped by leaves and have a good size and symmetrical form are believed to have good "life." It has not been practicable thus far to experimentally test these suppositions, but it seems from what has been done that there is a considerable degree of variability in the keeping qualities of lemons from the same orchard and probably from different parts of the same tree.

### Relation To Structure.

Certain structural features, viz, those belonging to the rind, seem to be especially important in this connection. The rind, which consists of a layer of white, spongy packing tissue having a very variable thickness, is covered on the surface by the epidermis. This covering consists of a layer of cells so modified chemically as to be almost impervious to water. The degree of imperviousness is greatly increased by a dense outer cuticle of a very resistant material which is practically waterproof. There are a vast number of small pores (stomata) in the epidermis, through which gases enter and water, as vapor, escapes. These stomata open into small chambers in the outer part of the rind.

Additional characteristic structures, known as oil glands from the substance which is formed in them and which they retain until the skin dries up, are found embedded in the outer part of the rind at different distances from the epidermis. The oil in these glands is a volatile product, giving the characteristic lemon odor to the fruit.

The losses assigned to blue mold are in a very large measure due to the development of the fungus following injuries. It is probable that the true blue mold can not penetrate the uninjured epidermis of a healthy lemon, but when a break occurs it is able to enter and bring about the characteristic rot. The development of the defensive outer layers of the rind is a matter of great importance in view of the ease of producing slight, but fatal injuries to the fruit.

To test the strength of this defense, a simple puncture experiment was devised. It consisted essentially of an apparatus so constructed as to enable one to apply known and regulated pressure to a blunt point in such a way as to get the amount of pressure needed to force the point through the epidermis. The needle tip was found to puncture the epidermis and bring oil to the surface with more readiness when it was applied directly over an oil gland—that is, on the surface of one of the projecting papillae—than when applied in the sunken place between these. It appears that the nearer the oil glands are to the surface the greater the ease of rupture. In tree-ripe lemons it seems from the evidence thus far gathered that the outer-most glands are likely to be less protected than in the fruit which is picked green. This would seem to indicate that tree-ripe fruit might show a greater loss from mold due to injury than fruit picked while green.

In a similar study of tent-cured fruit, a resistance markedly greater than in tree-ripe lemons was shown. Indeed, the resistance to puncture in tent-cured fruit seems to be double that of tree-ripe lemons. This difference is probably due in part to other factors than the absolute strength of the walls of the epidermis, but the result represents practically the relative liability to damage dependent on the structure of the outer tissues of the lemon. It was found that the tissue beneath the tough outer epidermis was able to offer very little resistance when the point of a needle had passed through the epidermis.

Lemons are frequently subjected to steady pressure of various degrees of intensity, and are preserved from injury by the general strength of their tissues throughout. Under these circumstances, the white pulpy packing tissue between the epidermis and the segments plays an important part. The thickness of this tissue varies very widely. In the so-called "sinkers," which form a case of an extreme reduction, this tissue forms a very inefficient protection against injury. Hence, "sinkers" might be expected to be poor shippers.

### Texture.

The relation of coarseness of texture to losses is not very clearly marked. In general, coarse lemons have a strong development of rind tissue. But many smooth lemons are equally well protected. The thickness of the epidermis and the consequent ability of the lemon to withstand wear is well tested in the box during shipment, when, as frequently happens, the jar of the car in stopping and starting is transmitted to the fruit in the box. The result follows that the fruit is "rasped" on rough surfaces of the shook, particularly of the ends and middle crosspieces when they are not planed.

### Method of Curing.

The keeping qualities of different types of lemons also depend largely on the method of treatment to which they are subjected to bring them into marketable condition. Although the inherent condition of the fruit, due partly to its early history, will determine its ability to resist decay to some extent, there is reason to believe that the method of curing is an important factor in determining the life of the lemon on the market. The lemon growers as a rule agree that the so-called sweating process of curing fruit has a deteriorating effect, although no definite tests have been made which would fully substantiate this belief. The sweating process is resorted to only when the briskness of the market necessitates

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a rapid coloring of the fruit. The grower, although he realizes the possibility of endangering the quality of his fruit, has at present no other method of curing lemons rapidly, and is therefore compelled to make the most of the process.—From Circular 26, U. S. Dept. Agr.

## A NEW AND PROMISING MANGO.

A few years ago Prof. P. H. Rolfs grafted a shoot of the Cambodiana mango on a bearing mango tree in his grove near Miami. This June it has produced a number of fruits, it being the first occasion on which this excellent variety has fruited in the United States or presumably in the new world. When this variety was first sent to the United States department of agriculture from Cochin, China, in 1902, Mr. Fairchild, who forwarded over a hundred seeds, said, "This is a delicious mango of medium size, yellow when ripe, with a faint but agreeable aroma. The flesh varies slightly from light to deep orange in color. It has an excellent, fine delicate flavor and is never stringy. It is not as rich as the Alphonse, either in aroma or flavor, but is nevertheless worthy to rank among the best mangoes I have ever eaten. Dr. Haffner of the botanical gardens of Saigon, informs me that this sort is never grafted, but is a variety which reproduces itself from seed. I believe there is a slight variation among the seedlings, although it is a surprisingly constant variety." Through the kindness of Prof. Rolfs, the writer has been enabled to examine and sample this mango. The fruit weighs about half a pound. The thin, tough, light yellow skin peels off readily and the pulp is quite fibreless and easy to eat with a spoon. Though I certainly prefer the Mulgoba flavor, yet this is an excellent mango with a spicy taste and not acid. Like several other mangoes which come prettly true from seed, it has several embryos in each kernel. On the whole, it is a most promising mango for those who do not desire to grow only the very best mangoes, but rather good, marketable onces, and who prefer the cheaper method of planting seeds to the more expensive methods of budding and grafting. The Cambodiana, if it proves as heavy a bearer, would be a more profitable mango to grow than the well known No. 11. It ripens early, about the same time as No. 11, which it is perhaps destined to replace. Seeds of this variety were again imported by the United States department of agriculture from Saigon, Cochin China, in 1904.—Jacksonville Times.

## CARE IN PICKING.

Manager Pritchard of the Placentia, Orange county, Orange Growers Association, issues a circular to members from which we quote.

"Before beginning another shipping season I wish to urge every one to unite with us in demanding better service from the help in the careful handling of fruit from the tree to the car. It has been proven without doubt that most of the decay comes from clipper cuts and stem punctures and bruises, all of which can be avoided if every grower will do his best. The board of directors has decided it is very necessary for us to have a picking gang. A good man will be put in charge with the power to hire and discharge, and no excuse will be accepted for keeping inferior help. The directors also decided that springs should be used on the wagons, and you are hereby notified that no fruit will be received unless handled on wagons having springs. I would suggest that every grower would procure a canvas cover for his wagon, to be used in hot dusty times as well as in damp weather. Care must be taken in picking fruit during cold weather, when it is damp from rain, dew or fog, all of which causes brown spots and often decay."

## FRUIT TREES EXHAUST SOIL.

"In considering the reasons why apple and other fruit trees do not bear as many or as fine apples as they did in the early days," writes Professor H. Carman, of the Kentucky experiment station, "I have been impressed with the importance of supplying the trees with fertilizers as the soil becomes exhausted and am satisfied that the greater relative difficulty experienced nowadays in keeping fruit trees in good condition is in part due to an exhaustion of the soil."

Trees forage more widely than smaller plants and may not show the effects of starvation as suddenly or as soon, but they must show it in time if grown long on the same land without anything being returned to the soil to replace materials removed by the trees.

He says that twenty crops of apples of fifteen bushels per tree, and thirty-five trees to the acre, equal 1,337 pounds of nitrogen, 310 pounds of phosphoric acid and 1,805 pounds of potash. Twenty crops of wheat of fifteen bushels per acre equal 660 pounds of nitrogen, 211 pounds of phosphoric acid and 324 pounds of potash.

Therefore, according to Professor Voorhees, twenty crops of apples remove more than twice as much nitrogen, half as much again phosphoric acid, and nearly three times as much potash as twenty crops of wheat. A good farmer would hardly think of growing twenty successive crops of wheat on the same land, no matter how good it might be, and it would seem to be still greater folly, according to the figures given, to attempt to grow twenty successive crops of apples without returning anything to the soil.—Green's Fruit Grower.

## BY THE TRAIN LOAD.

That the orange season is really here was shown by the string of refrigerator cars which came in this morning indicating that the "Orange Special" was again in commission.

This train will arrive from the north each day at about 6 a. m. and will remain making up the train and doing necessary switching, leaving this city with what fruit is consigned from here, shortly after No. 7 leaves. It will make stops at Lisco, Zante, Lindsay and Exeter and will deliver the fruit to the main line trains at Goshen.

Trainmaster E. J. Hatch was on the train which made its initial trip here this morning making the last of the arrangements for having the special run in regularly.—Porterville Messenger.

A strawberry grower at Grand Forks, British Columbia, is producing berries four and a half inches in circumference.


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**Your Money Grows Here**

You draw out more than you put in when you become a savings depositor at this Home Bank. Your profit is definite, sure, constant. Every year is a prosperous one. Begin now. Keep your surplus funds at work.

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MADE OF YUCCA PALM

Is cheap, durable, and quickly put on the tree. It prevents rabbits from destroying your trees. A sure protection against frost, sunburn, grasshoppers or dry winds. Can be easily removed; will last for years. Send for samples.

PRICES

| | PER 1000 |
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| 10 in. long, 7 in. wide, | $ 9.50 |
| 12 in. long, 7 in. wide, | 10.50 |
| 14 in. long, 7 in. wide, | 11.50 |
| 16 in. long, 7 in. wide, | 13.00 |
| 18 in. long, 7 in. wide, | 14.50 |
| 24 in. long, 7 in. wide, | 17.00 |
| 30 in. long, 7 in. wide. | 20.00 |

YUCCA MANUFACTURING CO.

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**For Sale, Fine Lot of Orange Seedbed Stock**

Both Sweet and Sour

Also one-year Navel and Valencia Buds, ⅝ in. up. For particulars call on or address

**T. J. Locke**

27 North Stoneman Avenue

Alhambra, California



**HYDRATED LIME**

1 part Taylors Hydrated Lime
3 parts best Resublimed Flowers Sulphur ..... mixed in a common mortar box

Has given highly satisfactory results in many orange groves, gone over by several different contractors using largest power machines, as a dry spray for the

Red Spider of the Orange

Hydrated lime is the ideal diluent and vehicle for the sulphur—and reduces the cost.

$15.00 a ton net in 100 lb. sacks. Sacks 15c extra.

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or

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**Orange Trees For Sale**

Navel and Valencia.

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L. C. Rice, Tropico, Cal.

Phone Sunset Glendale, 263



I have some fine

**Navel and Valencia Orange Trees**

FOR SALE. None better in the country. Price reasonable.

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TREES

Largest and best grown stock in the South. **Orange** and **Lemon, Apple, Peach, Pear** and other deciduous fruits. **Olives, Eucalyptus, Roses** and **Ornamentals.** Write for a copy of our **New Illustrated Catalogue** and let us figure on your requirements.

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**Selected Seedlings**

Valencia and Navel Orange Trees. Peaches, Apricots, Plums, Apples, Quinces, Pears, Olives and all small fruits Umbrellas by the 100. A full line of berries and Spineless Cactus.

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20 years of fair and square dealing.

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Largest growers of commercial money-making varieties in the state. Write us for prices. Catalogue and price list free. Address

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**KIRKMAN NURSERIES**

Wholesale growers of true-to-name trees and vines. Kirkman personally attends to the important details of his business; 23 years successful business. Why run the risk of getting untrue trees. Your business solicited.

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**An Improved Freestone Peach** The best for canning, drying and market.

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**The Silva-Bergtholdt Company** 164 Orchard Street Newcastle, Cal.


# Deciduous Fruit Culture

## PROGRAM STATE CONVENTION.

THE following outline for the program of the State Fruit Growers' Convention which will be held in Watsonville, December 7-10 has been received from State Commissioner Jeffrey. On Tuesday the morning session will be given over to the usual call to order, invocation, address by chairman, responses, and appointment of committees. In the afternoon the convention will get down to the regular discussions and program: Southern Oregon Apple Growers by Wm. M. Holmes, Apples on Our Menu by Mrs. Josephine Rodgers, The Apple in Southern California by Frederick Maskew, and Must the Apple Go to the Mountain by Prof. E. J. Wickson. The afternoon session will be given to discussions of topics of interest to horticultural commissioners. It will be conducted by Mr. C. H. Rodgers, president of the Pajaro Valley Apple Growers' Association. J. W. Jeffrey, State Commissioner, will give an address on the new horticultural law, and O. E. Bremner will give an address on Examinations and Requirements of the New Law.

Wednesday morning's session begins with The Almond Commercially Considered by J. P. Dargitz, Citrus Culture in the North by Prof. Elmore A. Chase, The Berry Industry by W. I. Newcomb, Latest Developments in Fig Culture by Prof. W. T. Swingle and G. P. Rixford. Afternoon Session: San Joaquin County Grape Growers' Asociation by Geo. W. Ashley, Report of the California Fruit Distributors, F. B. McKevitt, A. Growers' Marketing Agency by W. C. Walker, Report of Fruit Growers' Committee on Fruit Rates, R. D. Stephens. The evening session will be given up to a reception of delegates to the convention by the people of Watsonville.

Thursday forenoon session: Insect Pests and Diseases of the Apple by W. H. Volck, Fighting Frost by Prof. Alex. McAdie, Sulphuring Fruits by A. R. Briggs, After Fruit Production What? by John P. Irish. Afternoon session will be given over to a field day and excursion through the Pajaro Valley. At the evening session there will be two addresses, one on Insect Pests as They Relate to Rural Hygiene by Prof. W. B. Herms, and Planting Good Health on the Farm by Dr. W. T. Snow.

On Friday the fourth day of the convention there will be only two sessions, forenoon and afternoon. Forenoon session: Pre-cooling of Fruits by Geo. D. Kellogg, Crop Transportation and Storage by Prof. A. V. Stubenrauch, Horticultural Work at the University Farm by Prof. Warren T. Clarke. Afternoon session: State Road Problems by Nathaniel Ellery, Eucalyptus Commercially Considered by G. B. Lull, Report of Committee on Resolutions, Next Meeting Place, and Unfinished Business.

Those desiring rooms are requested to write to E. A. Hall, Watsonville, Chairman of Room Committee. A. N. Judd is Chairman of the Reception Committee. Railroads give fare and a third rates.

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The third carload of cotton has been shipped from El Centro. A half cent increase in price is noted.

## SOILS AFFECT QUALITY.

We are coming more and more to realize the apparent fact that the quality of soil has a great influence on the kind of fruit produced on it. As yet the evidence accumulated along this line is of a non-experimental character. There is, however, so much of it that we cannot ignore it. When this mass of crude information is reduced to order we may be able to establish some very important rules as to the manner in which certain soil elements affect quality of fruits. It is certain that the kind of soil regulates to some extent the quality of grains; but the results are not so striking as in the case of fruits, in which quality comprises flavor, texture and the like.

In growing any one variety of apples in different parts of the country, this effect of the soil is very noticeable. At a fair held in St. Louis some years ago, a man known to the writer was discussing with an exhibitor the quality of a certain variety of apple. He mentioned the fact that the apples grown on the shore of the Atlantic had a fine flavor, but that the same variety grown on Western prairies lacked flavor. The exhibitor replied that it was not necessary to go to the shores of the Atlantic to get the highly-flavored fruit, but that the same kind of flavor was given by the soil of the Ozarks. He thereupon produced several specimens of this variety grown in the Ozarks and asked the visitor to test the quality. The latter found it as the exhibitor had declared it to be—equal in flavor to that grown in the East.

The geological surveys now being made of the different states are sure to ultimately shed much light on this question. People will in time comes to demand fruit produced in certain soils or on certain geological areas. It is possible that we will learn so much about the matter that the orchardist will be able to bring onto his land the elements of soil that will advantageously affect the flavor. Such knowledge will be a boon to the public, for it might be the means of eliminating from the market the fruit that is now such a disappointment to the buyers.—Farmer and Stock Grower.

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## TESTS OF SPRAYING FOR CODLING MOTH.

Was your first spraying for the codling moth done just right? If so, it was almost impossible for you to find a worm hole in the blossom end (the calyx) of your apples at picking time. If calyx worms were common, your first spraying, for some reason was largely a failure. Perhaps the poison was of poor quality, and you may have used it in too small amount; but it is far more likely that the spraying was not thoroughly and properly done. Perhaps the application was made too early, before the blossoms were mostly off, or too late, after the calyx cups had closed; but it is more likely that you were in too great a hurry, used too little material, and sprayed from the ground, and so failed to fill all the calyx cups.

The one test of good work at the

first spraying is frequently to examine the blossoms to make sure that all have been filled with the spray.

To fill the calyx cups the spray nozzle must be elevated above the trees for the upper blossoms, which necessitates the use of a long spray rod and an elevated platform upon which to stand, unless the trees are very low.

The Colorado Agricultural College has usually recommended a medium coarse spray, but is now inclined to favor as fine a spray as can be thrown with sufficient force to make it carry well in to the outer calyx cup. A coarse spray requires more material and increases the likelihood of accumulating a harmful amount of arsenic in the soil.

The writer does not think that all sprayings, after the calyx cups have tightly closed, are useless; but after another year of experimentation and observation upon this insect, I am more strongly than ever of the opinion that a thorough spraying just after the blossoms have fallen will do more than all subsequent sprayings to prevent wormy apples; and if the first spraying for any reason is a failure, later applications will not prevent a wormy crop of fruit.—C. P. Gillette, Colorado Agricultural College.

### UNITE AND KILL THEM.

In order to be successful, a campaign of squirrel poisoning, or extermination by other means, should be general, for one farm may soon be restocked with the pests through the neglect of owners of adjoining lands to join in the war on squirrels. Hence the need of official action.

But intelligent self-interest should prompt every land-owner to fight the squirrel nuisance. There are numerous ranches in Contra Costa on which plague-infected ground squirrels have been found, and of course lands harboring such dangerous vermin are greatly depreciated in value if not entirely unsaleable.—Sacramento Bee.

### EUROPEAN VINEYARDISTS CATCH MOTHS.

Consul William Bardel reports to the department of commerce and labor that various experiments have been made recently near the French city of Rheims for discovering the most effective methods of destroying the moths of the pyralid and the cochylis, which insects are so harmful to the vinyards. The plan is as follows:

The best results have been attained by electric light traps. The trap consists of a portable post holding a five-candle electric lamp with an enameled reflector, from which, attached to three thin metal chains about eight inches long, is suspended a round tin-plate dish of about 15 inches in diameter. The dish contains water with a top layer of petroleum.

During the first night the traps were placed in three rows running parallel at a distance of about 200 feet, the distance between each two lamps being about 75 feet. On the first clear evening late in July the lights were turned on about 8 o'clock and remained burning until an hour or so after midnight. Soon after the lights were burning the moths commenced to swarm toward them and were rapidly killed, either by the fumes of the coal oil or by the coal oil itself.

The same operation was resumed the next clear night, only the lamps of the two outside rows were placed about 25 feet closer to those of the center row, and this was repeated in each of five subsequent clear nights, so as to finally bring the three rows within about 50 feet of each other.


# The Shape of a Plow

from the share-point back a third of the way across the mould board determines whether it pulls heavy or light. Three-fourths of the friction comes on this part, and this part of a John Deere plow bottom is shaped to split the ground like a thin wedge splits a stick of wood—that's one reason why John Deere plows are easy on your horses and economical for you—why the John Deere is the lightest draft plow in the world—and why there are more of them in use than any other three makes combined. We sell the John Deere plows, and carry a large stock of farm machinery. We want your business.

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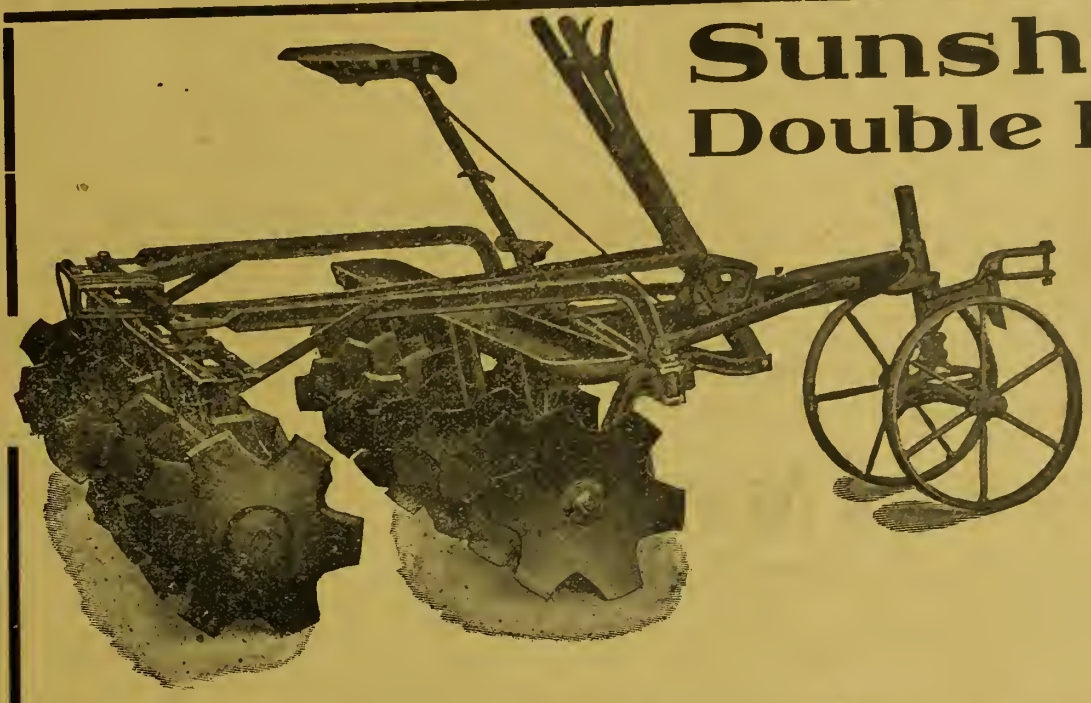

# Sunshine Double Disc Harrow

Will thoroughly pulverize and cultivate the soil in one operation, and will leave a level surface.

The 'Sunshine' can be changed from a Double to a Single Disc Harrow in a few minutes' time.

Write for full particulars to

**Newell Mathews Company**

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# AMERICAN SURFACE IRRIGATION PIPE

***SAVES WATER, GRADING AND TIME***

The ***only*** way to ***Irrigate Alfalfa.*** ***Cheaper*** than ***Flumes.*** This is only ***one*** of our ***specialties.*** We make ***Riveted Water Pipe*** in lengths of ***ten feet*** from ***single sheets.*** Let us ***prove*** to you that we make ***Pipe*** and ***Tanks right.*** ***WRITE FOR CATALOGUE.***

***AMERICAN STEEL PIPE & TANK COMPANY***

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We have the most complete Nursery in the . . . .

**WORLD** and the Largest Assortment to choose from. . .

Our Fruit Trees are all budded or grafted from our own tested Orchards. Therefore purchasers are certain to get the varieties they order.

**Write Us for Our Catalogue "C"**

**CALIFORNIA NURSERY CO.**

600 ACRES ESTABLISHED 1865

**NILES, CALIFORNIA.**

# Trees and Seeds THAT GROW

For 24 years we have supplied our customers in all States with Trees and Seeds that GROW. We carry a most complete line of **Fruit and Ornamental Trees, Berry Bushes, Roses, Perennials, Bulbs, etc.** Low prices. Best quality stock only. Pacific States varieties of Apples, best one year trees at $6.00 per 100. Peaches $5.00 per 100. We pay freight on $10.00 orders.

Also, very large and complete stock of **Farm, Vegetable and Flower Seeds** to select from. Write for big 112 page catalogue and Garden Book. Mailed FREE to anyone interested; also, free sample packet of "New Coreless" Tomato, the best of all tomatoes.

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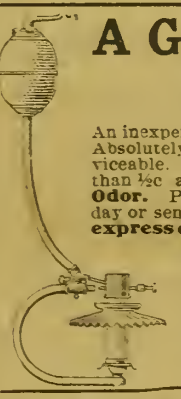

An inexpensive, strong, white light. Absolutely safe, convenient and serviceable. 100 candle power at less than ½c an hour. **No Smoke, No Odor.** Price only $7.50. Order today or send for circular. **We pay express charges and guarantee satisfaction.**

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# Rhubarb Plants for Sale

We have a few thousand extra choice one year old CRIMSON WINTER RHUBARB plants which we will sell for $25.00 per thousand. NOW IS THE TIME TO SET THEM in order to raise a splendid crop next season.

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# Eucalyptus

We have the following varieties in stock at this date.

Eucalyptus amygdalina (Peppermint Gum);
500 Cornuta (Yate Tree);
Crebra (Narrow-Leaf Ironbark);
168,000 Globulus (Blue Gum);
Goniocalyx (New South Wales Blue Gum);
1000 Leucoxylon (Victorian Ironbark);
3000 Polyanthema (Red Box);
1000 Resinifera (Red Mahogany);
700 Robusta (Swamp Mahogany);
32,000 Rostrata (Red Gum);
13,100 Rudis;
53,300 Tereticornis (Forest Red Gum);
28,000 Viminalis (Manna Gum);

Address

**W. A. T. STRATTON**
Petaluma, Cal.

## Strawberry Plants

**Bred in California**

Will yield more berries, and have fewer runners than eastern stock. Breeding plants carefully selected each year and not allowed to fruit.

**Superb--Everbearing**

We have Brandywines, Jessie, Marshall, Burbank Beauty, Excelsior, Enhance or Al, Lady Thompson, Klondike, Mrs. Miller, Hummer, August Luther, Commonwealth and Pride of Cumberland.

Send Stamp for our elegant new catalogue containing description, prices and cultural directions.

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## Eucalyptus Seeds

In large or small quantities, 33 kinds to select from. Write for free pamphlet 'Eucalyptus Culture." It gives full directions for sowing the seed, raising the plants and planting out into the field, together with descriptions of all the leading species, giving their uses and the localities to which they are adapted. Sample packets 15c each, 2 for 25c, 4 for 50c, 9 for $1.00. Choice Flower, Garden, Tree and Palm Seeds, Roses, Flowering Plants etc. Catalogue mailed free upon application.

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SEEDSMAN and NURSERYMAN
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## 20,000 Superlative Raspberry Plants

The Largest Raspberry in Cultivation.
Sure Cropper.

## 600 Grafted Franquette Walnut Trees

From selected trees of the Vrooman Strain on black native root.

**Wm. RICHARD,** 438 River Street, Santa Cruz, Cal.

## Eucalyptus Trees

**Red and Blue Gum**

Specially prepared for cheap transportation and safe transplanting. Write for particulars to

**HENRY SHAW, Santa Cruz, Cal.**

**EUCALYPTUS**
**TREES AND SEED**
SUNSET HORTICULTURAL COMPANY
Inglewood, California


# Small Fruits and Vegetables

### THIS MONTH.

HARDY vegetables such as beets, carrots, onions, spinach, cabbage, cauliflower, lettuce, parsley, salsify, turnips, radishes and peas may all be planted this month. Reset asparagus, rhubarb and strawberries. Tomatoes, peppers and egg plant may be planted in hot beds for early crops in the least frosty sections. Ground which will be wanted in the best of condition in January should be heavily fertilized and spaded or plowed this month. Thorough working is beneficial at this time of year, besides it helps to break up and destroy nests of insects which will attack plants in spring.

In Gods Temples.
Courtesy State Supt. of Public Schools

Berries and small fruits should be pruned. All of last year's growth which has not been removed should be taken out and burned, and where there have been any fungous troubles thorough spraying with Bordeaux mixture will be beneficial.

### SETTING STRAWBERRIES.

It is very important that the plants be carefully pruned before setting. The roots can be cut back with a pair of shears or a sharp knife, clipping off about one-third to one-half of their length. When the plants are heeled in before setting it is best to put off pruning until the time of transplanting. In trimming the tops all dead leaves, stems, and all large leaves should be removed. In pruning the plant be very careful to see that the roots do not become dry. It is a good practice to dip the plants in a bucket of water and wrap in paper, including about 25 plants to the bundle, then the workmen can handle them without fear of drying out.

The ground having been given its final harrowing, mark it off at the desired distance with either a marker made for that purpose, or if it is desired a wire or garden line can be used. Some growers say that the rows should run north and south, and never east and west. The reason is that in the latter case one side of the row will receive more sunshine than the other. The methods used in setting the plants are numerous. Some growers simply run a furrow, drop the plants so that they rest against the land side, cover with a hoe and tramp the soil down with the foot. The remainder of the furrow is filled during cultivation. Another practice is to open the ground with a spade, insert the plant, and press the soil with the foot firmly against the plant. Setting with a trowel or dibber is the most satisfactory and surest method of getting the plants in the ground properly. The plants should be set so that the crowns are just even with the surface of the ground. This can not be done successfully when the plant is dropped in a furrow and covered with a hoe, neither is the spade method a success. Where the dibber is used this can be done, also the roots can be spread out so that each will come in contact with the soil, thereby insuring a rapid growth from the first. See to it that the roots are not exposed after setting, or that there are no crowns covered. In the former case the plants may grow but will be worthless, in the latter they simply rot.—Bul. 105 Oregon Exp. Sta.

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The man who thinks it a woman's work to keep the garden going was not built on the right lines. The garden should be considered as important as any other part of the farm and treated accordingly.

---

"One year's seeding makes seven year's weeding" is very true of the soil of a well fertilized garden.


# Eucalyptus

We have a very fine lot of these trees in variety, ready for immediate shipment.

## Orange and Lemon Trees

Our Citrus Trees are of the very best one and two year buds. We claim to have the finest trees on the market for the next season's planting, in any quantity. We are also large growers of

**Palms, Roses, Fruit Trees**

and other stock. Call and see our stock or write for our prices.

**Armstrong's Covina Nurseries**
222 E. College St., Covina, Cal.

## Eucalyptus

We have ready for immediate shipment
**100,000 BLUE GUMS**
fine, healthy stock.
Write for our Eucalyptus circular.

**Sycamore Grove Nurseries**
Saint & Warner
4584 Pasadena Ave, Los Angeles

## 350,000 Asparagus Plants

Strong healthy roots ready for immediate planting in permanent beds. I have plants of the four leading commercial varieties—Barr's Mammoth, Conover's Colossal, Columbian Mammoth White and Palmetto—all grown from specially selected seed. Price $1 per 100, $5 per 1000 cash, express prepaid. Write for prices on large quantities.

**200,000 Mammoth Blackberry and Red Loganberry**

plants. Orders booked now. Delivery in January and February. Write for prices.

**Otto F. Schuchard** 362 E. Lake Ave. Watsonville, Cal.

## You Can Double the Size of Your Farm

without buying any more land or without working any more land. This is not done by any magic process but simply by using

**Fertilizer**

adapted to the particular soil of your farm and thereby doubling its product.
Write for our new book, "The Farmer's Friend," telling you exactly how this can be done. The 1910 issue now ready. Sent Free of Charge to any address.

**Pacific Guano and Fertilizer Co.**
Dept. A 268 Market Street, San Francisco

**CRIMSON WINTER RHUBARB**

$1.50 per Dozen
$6.00 per 100
$40.00 per 1000

Now is best time to plant Rhubarb.

Berry Plants of All Kinds.

**J. B. Wagner**
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## Trees Eucalyptus Trees

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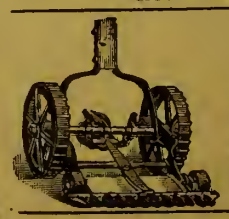

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The Garfield County Poultry Association will hold its annual show at Pomeroy, Washington, Dec. 15 to 18.

# The Ornamental Garden

## THIS MONTH.

IN SOME sections of California little planting of annual seeds can be done at this time, but as a rule, especially near the coast, annuals wished for spring or early summer blooming may be planted during the entire month. Deciduous trees and ornamental shrubs may be planted as soon as leaves show that they are perfectly dormant. This would be perhaps as well done in the latter part of the month but should not be deferred until buds begin to swell, for when that occurs, the roots have been forming for some time and best results will be lost. Roses may be planted later in the month, especially if they have been dried off so as to be perfectly dormant. The hardier sorts may be handled at once and without so much care. Cuttings from dormant vines are so easily rooted in this state that it is sinful for every yard not to have an abundance of the very choicest of cut flowers. Make the cuttings eight or ten inches long. If the soil is sandy, place one-half to three-fourths of the length in the ground. If heavy, a little sand placed at the base of the cutting makes rooting more sure.

It is possibly a little late for sweet peas, but those who did not plant earlier or wish continuation of bloom can plant this month successfully. Pansies may be reset, as well as stocks, phlox, mignonette, candytuft, alyssum, cosmos and shirley poppies. Dutch bulbs which have not been planted should be put in the ground at once. Gladiolus are always in order, and for continuation of bloom this is a good time for planting. Eucalypts which were put in seed boxes earlier should be transplanted to flats at once.

## A COUNTRY HOME.

Much has been said and written on the discomforts and inconveniences of country life, but the truth is, life is largely what you make it, whether in city or country, and nowadays a country home has the greater advantages. The trouble is, most of the farmers do not realize how well off they are, and how nearly ideal their homes and lives might be.

Free rural delivery of mail and the telephones have removed the greatest objection to farm life, viz: isolation.

All the luxuries of city life the country home may have, and expend a less amount of energy to procure them than the city dweller must do.

The average city man works from 8 A. M. to 5 P.M. and then mows his lawn and sprinkles it, and often has to do sundry chores besides.

At the end of the year, if he is square with the world, he counts himself lucky; if he has saved one hundred dollars, he feels that he has done well. The city man really puts in more hours of faithful work than any farmer does—he has to or he'd lose his job.

Whenever a farmer uses as much brains about his work as a man who manages his own business in the city, he becomes a king, in a world of his own, and may have more luxuries than the average city man, for the city man is limited, and the farmer king is not.

Table luxuries of all kinds may be had in the country at less expense than in the city, yet many farmers do without vegetables, fruit, butter and milk; their tables have no fine linens nor festive flower pieces, and the unvarying monotony of bacon and potatoes, is enough to discourage the strongest stomach and knock a righteous liver galley west.

If a man owns one acre of land, and does not live in a wholesome, civilized manner, he has only himself to blame, unless his wife may deserve just a little of it.

Man is limited only by his abilities! What you really want to do, you can do!

Brains and books are just as necessary to a successful farmer as they are to a first-class lawyer.

After the business side of farm life is settled, the dear cozy home life is still left, and this the city man cannot have, for his home is limited, as a rule, to four walls and a small lawn, while the country home includes the orchard with its wealth of fragrant blossoms, or fruit laden trees; the barn, with its hayloft and hens' nests; the horses, that whinny their greetings and touch you with their velvet noses; the cows, that coax for nubbins; the calves, and sheep, and pigs, the rabbits and doves, that say in a language of their own which you have come to fully understand "Howdy"—and then, when you stroll down the leafy lane, hand in hand with your sweetheart-wife, and the whole farm menagerie's atagging at your heels—not to mention old Bose and the tabby-cat—would you trade this for anything the city has to offer? I trow not.—Green's Fruit Grower.

## FRUIT AND GARDEN NOTES.

In setting out fruit trees and shrubs of all kinds, notice that the wire holding the label does not fit too tightly around the stem. As growth proceeds these wires often become so tight as to cut into the bark and wood and in time cause the death of the tree or shrub.

The old-fashioned plan of raising the flower or vegetable beds is fast going out of style. The raised bed must be tended by hand and it dries out too fast in dry weather. Make all beds level with the surface of the ground to save moisture and make the work of tending them easier.

Gladioli may be grown either from bulbs or bulblets. Bulbs will produce flower spikes the first season. Full grown gladioli bulbs produce many little bulblets each season which should be saved and planted for future stock.

For early blossoming, plant aster seed in flats or the hotbed early in March and transplant the young aster plants two or three times in pots, separate hotbeds, or cold frames before open planting in the garden. Repeated transplanting induces a strong root system, which insures sturdy and rapid growth at the advent of warm, growing weather. Asters as cut flowers must not be picked till the blossoms are fully out. The buds do not develop after the stems are cut.

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# Irrigation and Forestry

## UNDERGROUND IRRIGATION.

W. F. Sutherst, Ph.D., Bishop, Cal.

IT IS evident that some better means of applying water to the soil than is now practised must be devised, for from all sides one hears of losses from improper irrigation, so that in some districts farmers are trying dry farming and generally find it successful. The first consideration for cultivation is to obtain a water supply, then to study the best means of utilizing it.

Surface irrigation either on pasture or cultivated soil is both wasteful and injurious; wasteful in the first place since the region at the water inlet receives far more than its necessary amount of water. An examination of the ground in such

At the Forks of the Streams.

places at the end of an irrigating period would show that for a considerable depth and distance each side would be soaked in water, while at the extreme end of the ditches the water would scarcely have soaked to six inches. In the case of cultivated land, the flowing water forces together the soil particles at the surface leaving a hard crust when dry which hinders sprouting crops and nips the growing shoots when further developed. On pasture this latter effect is not noticed, as the grass stalks and leaves act as a protection. The laborious work in hoeing the surface after irrigating nearly equalizes the good effect of the water.

The surface of the soil, however, is the natural inlet for water, but rain and dew rarely cause the inconveniences of irrigation. In the first place it is distributed evenly over the surface and does not compress the soil as flowing water does. Surface irrigation is the best agent in soil aeration, as the water first of all fills up the air spaces in the soil and then on sinking down draws fresh air to the subsoil. Every growing part of a plant needs air, and as the growing parts of the roots are at the extreme ends and therefore far away from the surface, one sees the necessity of attending to this part of the plant's life.

The best imitation of rainfall would be to have a series of perforated pipes running over a crop, which is carried out to some extent in Florida, but the inconvenience of having any overhead system of pipes would compel any one to lay them on the ground. If a series of side pipes were attached to a main and these pipes perforated, an ideal irrigation system could be made, the flow of water being regulated so as to allow enough to flow and be absorbed without running along the ground. The only objection would be in plowing and cultivating the ground where the pipes would be in the way of implements. Sub-surface irrigation is assumed to do away with all the objections of surface irrigation, but the great drawback is the trouble of keeping the roots out of the pipe or channels used. In a dry country the roots are particularly on the search for water, and will penetrate to a considerable depth and into any water course in this search, otherwise this system is an ideal one. Soil aeration would be of course less satisfactory, as the bad air in the soil would not be driven out unless the water rose to the surface. But the even distribution of the water, which could be regulated by lessening the holes of the pipes near the water inlet, is the great advantage of this system. The roots, however, will tend to leave the soil and work their way into the subsoil, where of course less plant food is to be formed, and in the case of fruit trees this is decidedly to be avoided; it might be possible to apply some substance to the pipes which would destroy the rootlets when they come in contact and so keep them from entering and choking them up.

On alkali ground a combined system of irrigation and drainage could be carried out by this system, and so wash out the alkali; the land after surface flooding, would then have the water drawn off by the underground pipes, of course in the opposite direction to the water flow, and this would also aerate the soil.

* * *

We may add that sub-irrgation has been tried in nearly every concievable way for more than 30 years in this state and we know of no case where any one system has been maintained for any great length of time.

The sprinkling plan as practiced in some cases in Florida is good in theory, but in some sections of arid California the atmosphere will absorb much of the irrigation.—Ed.

## RESISTANT PILE TIMBER.

"What wood is most resistant to the attacks of marine borers?"

This is a question uppermost in the minds of all owners of harbor property. Timber experts in some parts of the country give more attention to the solution of the question than others in many cases, and just now it seems that the keenest search for the most resistant pile timber is going on in the extreme West.

The claim is made that eucalyptus piling is more resistant to the attack of marine borers than any other pile timber found on the Pacific Coast, also that certain eucalypts are more resistant than others. It is also claimed that Lawson cypress is particularly resistant to attack. Furthermore, some prominent engineers assert that many creosote treatments now practiced are not effective against borers and that various pile casings are of doubtful value. It is true that a great many piles, both treated and untreated and consisting of different species, have been driven, but in most cases records of durability have not been kept and in no cases have the different species and methods been directly compared under exactly the same conditions, thus making the results of little value.

With a view to furnishing this authoritative information the Forest Service has planned a series of experiments to be carried out at San Francisco and San Diego. It is the intention to secure several piles each of all of the species of timber occurring on the Pacific Coast which might be used for pile purposes. This will include different species of eucalyptus, Douglas fir, western yellow pine, western red cedar, redwood, and Lawson cypress (Port Orford cedar). In addition it is the intention to secure Dougas fir piles treated with various preservatives and protective coverings. In the experiments only 8-foot sections having an average diameter of 10 or 12 inches will be employed, inasmuch as the cost of handling and transporting larger piles would be prohibitive.

One-half of each kind of timber

will be installed at San Francisco and the other half at San Diego. The sections will be fastened to concrete caissons if available. If not, the sections will be fastened to creosoted piles. In such a case they will be so fastened that a space of a few inches will occur between the creosoted pile and the experimental timber. This will guard against any influence which the proximity of the creosoted pile might have on durability. They will be so placed that the upper end will stand about a foot or two above low water mark.

The ends will be properly protected with asphaltum, copper, or some other suitable substance to guard against the longitudinal attack of borers. Each section will be properly marked with a copper tag for identification. In addition a detailed map will be drawn showing the location of the sections after they are placed in position. In no case will less than six sections of one species be included. The experimental material will be inspected at frequent intervals and reports will be prepared covering the details of the experiments.

Some difficulty is being experienced in securing a sufficient amount of timber for the tests, especially the different species of eucalyptus. Any owners of eucalyptus timber who are willing to furnish a small amount for this purpose should communicate with the Forest Service, San Francisco. Already several manufacturers of pile casings have signified their desire to have piles treated by their various methods. It is hoped that all such treatments will be well represented.

## HOW FOREST FIRES START.

"These forest fires are more often started by some one throwing down a match carelessly or spilling out the live ashes from his pipe," says D. Whittaker. "When we were building the extension from Champion to L'Anse, years ago, some of the boys thought they would go down to Champion for a time. Coming back, one of them lit his pipe and threw the match into the dry grass.

"Before that fire burned itself out it had traversed a strip of territory sixty miles long and five or six miles wide. We lost hundreds of thousands of ties by the fire, to say nothing of the timber that was burned over—all because a man was not careful where he threw a lighted match. When such fires once get started they burn themselves out; you can't stop them.

"And they play some queer freaks. I have seen great pine trees, standing out alone in a space 100 yards or more from anything and suddenly the fire would jump out and a few minutes later nothing would be left of the tree but the trunk and scarred burnt limbs. I remember one case of the kind where a handsome, big pine stood out alone. Suddenly the flames seemed to gather themselves into a big ball and burst over the top of the tree like a shell, enveloping it in fire. It burned as though it had been kiln-dried.

"Somehow the fire seems to take all the sap out of the tree. That tree was completely destroyed in a short time, the fire sweeping on and leaving it a grotesque and blackened trunk, where before was a beautiful picture.

In the old days the Indians were very careful of fire. When they broke camp in the morning after going a short distance one of the band would go back to see that there was no spark unextinguished. If there was he would be sure to put it out. If he did not return to the waiting band soon, two or three others would go back, and if there was any fire they would help him extinguish it.

"In that way forest fires were prevented. Nowadays, with white campers and picnickers going into the woods and leaving without care whether they leave sparks which may cause a blaze or not, it is hard to preserve the forests. I presume it was something of that kind which started the fires in that country up in British Columbia. I know the country; it is densely timbered, and a fire there will mean the loss of hundreds of thousands of dollars in standing timber, to say nothing of the lives said to have been lost."—Milwaukee Sentinel.

## WATER IN ALASKA.

Contrary to popular ideas, the chief obstacle in the way of a large and increasing gold output from Alaska is the lack of water. Over the whole of Seward Peninsula, which produces a fourth of the gold of the Territory, and in most of the interior as well, the climate is comparatively arid, except in small mountain areas. The total yearly precipitation ranges from 10 to 25 or 30 inches, and as much of this comes in the form of snow, which melts and runs off in a few days in the spring, the discharge of the streams becomes very small in an ordinarily dry summer.

The operation of the gold placers in Seward Peninsula had by 1906 reached such a stage of development that their future success was largely dependent on the possibility of mining large bodies of relatively low-grade gravel. The most common method of working such ground has been by hydraulicking, for which a large and steady supply of water under a high head is a necessity. To obtain such a supply a large number of ditches were built, many of them long and constructed at great expense, without first making sure that they could obtain an adequate water supply. The results of such a policy were forcibly shown during the last three summers, particularly in 1908, when the severe droughts caused much loss.

For this reason the United States Geological Survey has engaged in the work of procuring data by which the miners may be able to estimate with reasonable accuracy just what water supply they can count upon. Hydraulic developments have been carried farthest in southern Seward Peninsula. Attention was first given to this region and the results of the work of 1906 and 1907 were published A supplementary report bringing the statistics up to date has just been issued by the Survey as a chapter in Bulletin 379. It can be had free of charge from the Director, United States Geological Survey, Washington, D. C. In addition to data obtained in the Nome, Grand Central, Kruzgamepa, and Kougarok basins, the field of work was widened to include the Solomon and Casadepaga drainage basins and the Fairhaven precinct. The report is by F. F. Henshaw, who conducted the field work, assisted by A. T. Barrows.

Farmers institutes were held at Arlington, Clayton and Tempe, Arizona, last week.

The giant sequoias of California are the oldest living things upon the globe. They come of a race which, according to the calculations of the geologists was well developed ten millions of years ago. The family was a large one once distributed throughout the northern hemisphere as far as southern Europe, but now only two species remain, the redwood, so abundant in the coast mountains, and a few isolated groups of the giant sequoia. In some of these groves the tree reproduces itself while in others it has ceased to reproduce. The most astonishing thing about these trees—far more imposing than their enormous size—is the great age of those living in California today. John Muir declares that one of these trees, the rings of which he has counted, was one thousand years old when Homer wrote the Iliad and two thousand years of age when Christ walked upon the earth. Thus these living trees are far older than our civilization.

Irrigation projects are under way in southern Nevada under the Carey Act, which will reclaim about 48,000 acres.

By the discovery of a large section where artesian water may be had in large quantities near Las Vegas, Nevada, the agricultural possibilities of southern Nevada have been greatly increased.

Drainage District No. 1 of Butte county has filed complaints against various people for collections.

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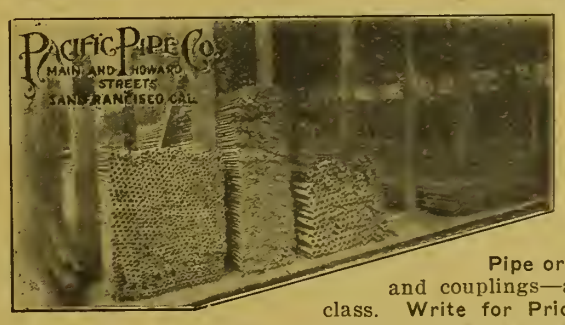


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# J. B. Wagner's Experimental Grounds

## Practical Work by Pasadena's Indefatigable Worker with Plants. Giant Rhubarb Showing Fine Results.

ONE OF THE pictures shown on this page gives something of an idea of a walnut tree growing on the experimental grounds of Mr. J. B. Wagner of Pasadena. This tree was planted seven years ago, being then about the size of a lead pencil, so small, in fact, that a workman passing it later with his cultivator, treated it like a weed and cultivated it out bodily. It was later replanted by Mr. Wagner, with the result that instead of growing one straight stem, three trunks came up, as shown in the picture. Not being given immediate attention, the three branches attained such size that Mr. Wagner determined to let them all stand, and they have made the enormous growth shown in the photograph. The three stems each approximate about one foot in diameter, the larger having a diameter of fourteen inches. English walnut seedlings planted at the same time and standing near this tree (one of which may be seen back of Mr. Wagner in the picture), having the same treatment, show trunks with a diameter of four to six inches and tops which make no comparison whatever. This tree is a hybrid of the English Softshell and the Eastern Black. The wood is not so dark as that of the Eastern Black but more of the shade of mahogany, with grain much finer and closer than that of the Eastern.

Hybrid Walnut with Great Future.

As a lumber proposition, we imagine walnut trees which will make such a rapid growth as that will crowd the eucalyptus trees very hard as a favorite. In illustration of this, a certain piece of furniture, an exceptionally fine library table, is priced in a Los Angeles furniture store at $150 in any oak finish, $200 in mahogany, and $250 in black walnut. If such is the case, it proves the wonderful value of walnut lumber.

This is simply mentioned as showing one of the lines of work engaged in by Mr. Wagner at his Pasadena experimental grounds. His principal work is the development of rhubarb on which he has labored so many years. Articles have been given heretofore describing this work and showing how indefatigably he has labored to develop a larger and better strain of this luscious "fruit." Formerly, he has grown and distributed largely the popular Crimson Winter variety introduced by Luther Burbank several years ago. These plants Mr. Wagner has distributed in many sections of the state and still has many thousands of plants to dispose of. But not content with this, he has introduced varieties from all parts of the country and the world, even going so far as to experiment with the common docks which are of the same family as rhubarb, thinking possibly some feature of it might be valuable in building up a strain of rhubarb such as he desired. His ambition was to combine all the desirable qualities of the Crimson Winter and the greater size of the giant rhubarbs.

As a result of these experiments, he has developed a wonderful stock as to size and length and all the highest qualities. In color it is hardly as red as the Crimson Winter, but the other more desirable qualities have been added to it to such an extent that it bids fair to prove a wonderful wealth bringer to this state. It looks so promising that Mr. Wagner has already been offered one hundred dollars per root for some of the full grown specimens of these plants, and three years ago was offered $50 each for the entire lot of plants he then had. This offer was by one of the leading seed firms of the East.

As yet he is holding entire control of them, excepting a few which he has granted to the state experiment stations and to the Department at Washington to test under other conditions than prevail at his grounds in Pasadena. In looking over the plants last year, one of the officials sent from the department of agriculture at Washington to inspect Mr. Wagner's work, stated he had never seen its equal—though he had seen rhubarb growing in almost every nation on earth—surely a compliment to Mr. Wagner and indicative of the worth of his experimental work.

These are all promising well and from them it is hoped large distributions may be made later. Mr. Wagner has about determined to make a distribution of a very few small plants this season at five dollars apiece. This plant is a hybrid of the Lorenzo or strawberry and the Crimson Winter.

Mr. Wagner's work is not entirely along the line of development of new species, but also in producing the most from the old and favored varieties. For instance he has his place divided into plats handled with different methods of fertilizing. Two rows which we show in photograph on this page give a slight idea of the difference in the two rows, a difference which is most marked in the field. The row on the left the second from the one by which Mr. Wagner stands was planted on good rich soil, as was the one by which he stands, both had the same care for the first year. During the last year the ground of the latter row has been treated at two irrigations with an application of urine saved from dairy stables, and applied while water was flowing in irrigation furrow. This treatment is comparatively inexpensive, and the wonderful difference in the production of the two rows and in their appearance, shows the worth of this waste of dairies which is most often allowed to run away and be lost instead of being saved by absorbents. Mr. Wagner thinks that by far the greatest worth of cow manure is lost in this way. His experiments have proved the advantage of using it on rhubarb, for we doubt not the tonnage from a row so handled would be twice that of the unfertilized row.

Other plats have been handled differently, one with fresh cow manure, one with decayed cow manure, one with fresh horse manure, one with commercial fertilizer, and one with grape pomace. Strange as it may seem, the most remarkable results have been secured from the use of grape pomace. The row fertilized with grape pomace is alongside of the one fertilized with fresh cow manure and shows a growth so much greater that a person passing along by the two rows would naturally remark as to what caused the difference in the two plats of rhubarb. Its application was made before the rhubarb was planted and thoroughly worked into the soil. Other experiments where the fresh pomace was applied to land immediately alongside of rhubarb already planted proved that the gases arising from the freshly distributed pomace were poisonous to the foliage, so that care should be used in distributing fresh or raw pomace anywhere near vegetable growth. Some rhubarb showed remarkable "burning" where this had been done. Orange trees, however, where branches came down to the ground showed no such results. Where old pomace was used this burning effect is not noticeable.

Wagner's Giant Rhubarb.
Note difference in thrift of the two rows.

Mr. Wagner maintains more strongly than ever that great wealth will yet be brought to California from the extensive planting of rhubarb. Its greatest output is in winter time, January to April giving exceptionally heavy growths. Refrigerator cars will place this in the Eastern markets at a time when they are comparatively bare of any other similar fruit. Car load shipments have already been made which have brought immense profits to growers.

Mr. Wagner will make an interesting proposition to any one interested in growing a profitable crop. Write him promptly before his supply of plants is reduced. His address is, J. B. Wagner, Pasadena, Cal.

# Bees and Their Care

## BEE CULTURE.

THE following is from an address made some months ago by Prof. Ralph Benton of the State University at various Southern California Institutes:

The first element of success to consider is the choice of the best honey producing plants. California has in abundance at least a dozen that are very valuable. Amongst the best are, Purple and Black Sage and Phacelia. Second best, Mustard, Spanish Bayonet, Manzanita and several of third quality and still lower grade.

Sweet clover furnishes an abundance of good honey where it is grown, the white being better than the yellow. Alfalfa and orange are excellent and eucalyptus furnishes freely and of fair quality but out of season for bee flight in cold localities.

Migratory bee keeping is being largely considered and in some cases successfully. The second consideration is choice of favorable location, both as to distance from easy market, and length of flight to and from their harvest fields to the hive, for the bees. Also the choice between level and hillside apiaries, shelter from hot sun and fierce winds, reasonable nearness to fresh running water.

In places where the noon sun will reach the hives, the shade of growing or freshy cut trees is beneficial. Morning sun is good, the early flow of honey is best and the bees rested and vigorous, and the secondary flow in the afternoon in mild sunlight is also good. Keep them quiet as possible from outside disturbance, especially on a hot day as it makes them nervous, cross and inclined to too much swarming, which weakens the colonies as well as interrupts their work. In apiaries of 100 or more hives or colonies the more hours of bee labor the more honey, and a little disturbance and confusion often means to the owner the loss of hundreds of pounds of honey. Avoid windy locations, also draughty places. Do not locate where bees will have to carry their load more than three miles if you can avoid it, and if your hives are lower than the honey fields so much better as the loaded bees can take a downward instead of rising flight, and there should always be lighting boards at each hive entrance so they can settle and rest for a moment, afterward crawling into the hive instead of flying direct into the opening.

A gentle slope with good drainage, good water as before suggested, but not so close as to endanger the property in case of floods, and we reach the arrangement of the hives. This must be governed somewhat by surroundings, but the storage or honey-house should be at lower level than hives and a very good way is to have the rows of hives radiate upward and outward from this bouse in such a way that they are easily approachable from the back of the hives,

They can be set in twos, a foot apart with safety and convenience, but do not crowd them. Have space enough to operate each colony without disturbing others. If your grounds can be terraced so the hives can be in tiers, each terrace a man's height above the next below, it is a most convenient plan for both man and bees.

If honey is to be extracted before the comb is capped, the distance above the ground is a mere matter of taste, but if you desire the best honey it can only be obtained by ripening sealed in the comb as the bees only can do the work; there must be stories added from time to time in which case the hive should be only a few inches from the ground to begin with. The ten-frame Langstroth hive is the best, and the empty stories can be always inserted next above the lowest, the filled ones lifted to admit them, as bees always enter the hive at the base, keep their brood combs surrounding the entrance and store honey in the rear and above the brood, and they do not like to still farther climb over filled combs to store the new honey. It is also detrimental to the condition of the comb to have them crawling over it.

One hundred hives is enough for one apiary, and in that number or even less there should be shrubbery, trees, etc., as landmarks or they get confused and sometimes enter the wrong hive which always makes trouble among them.

If necessary to feed the bees, feeding in small quantities makes them greedy, stimulates them and increases their numbers, but in large quantities they will quietly store their supplies and use as they need. It is always best to feed inside the hive to be sure the right swarm gets it.

## HIVING NEW SWARMS.

To prevent swarming requires different equipment, which is not necessary where one is in the bee business for the purpose of getting honey for home use, and to escape the buying of the different kinds of adulterated sweets that are offered on the market. Four or five swarms of bees will keep up the honey supply for the ordinary family and provide a delicious sweet, cheaper and better than that of the mill and market. Hive the largest swarms only, and for your own use merely, you need not winter more than a half dozen swarms. If you can get the price of lumber in hives, and the honey contained in them for wintering over, you had better sell the surplus and start some neighbor. It is more humane than to kill the bees and may be the means of putting the molasses jug or syrup keg out of commission.

If you have no bee catcher, locate the bees near brush, grove, or orchards, so as to be accessible. Spread sheet under the branch where the swarm hangs. Bend or cut branch down low, give a sharp shake or jerk and the bees will fall on the sheet. The hive should be tipped up a little without the bottom, and covered on the top. If the bees hesitate about going in, wash hive with clean salt brine, or put hive in another position. Dirty or ill-smelling hives are always rejected by bees for homes or lodging.—Farm Stock and Home.


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Address all correspondence to

**Cultivator Publishing Co.,**
**115 North Broadway,**
**Los Angeles, Cal.**

# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, December 2, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

Frank H. Thomas, Adv. Mgr., 115 No. Broadway, Los Angeles
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Fisher Special Agency, Eastern Office 150 Nassau St., New York
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## Greatest of All Years.

THE THIRTEENTH ANNUAL REPORT of Secretary Wilson issued December 1, gives statements which show the past year the greatest of all years in agriculture of this country. He says:

Most prosperous of all years is the place to which 1909 is entitled in agriculture. The yield has been bountiful with most crops, and prices have been high. Advantageously situated as he is in most respects, the farmer is less and less generally compelled to dump his crops on the market at time of harvest. He does not need to work for his board and clothes, as he often did in the former time when prices were so low as to be unprofitable.

The value of the farm products is so incomprehensibly large that it has become merely a row of figures. For this year it is $8,760,000,000; the gain of this year over the preceding one is $869,000,000.

Ten years ago the value of the products of the farm was only five and one-half times the mere gain of this year over 1908; it was little more than one-half of the total value of this year. The value of the products has nearly doubled in ten years.

If the total value of the farm products in 1899, as established by the census, is placed at 100 the value for 1903 is represented by 125, for 1904 by 130, for 1905 by 133, for 1906 by 143, for 1907 by 159, for 1908 by 167, and for 1909 by 186.

Eleven years of agriculture, beginning with a production of $4,417,000,000 and ending with $8,760,000,000! A sum of $70,000,000,000 for the period!

It has paid off mortgages, it has established banks, it has made better homes, it has helped to make the farmer a citizen of the world, it has provided him with means for improving his soil and making it more productive.

## Our Greatest Crops.

SECRETARY WILSON says in his annual report, "The most striking fact in the world's agriculture is the value of the corn crop of 1909 in this country. It is about $1,720,000,000." He further adds that this corn crop nearly equals the value of the clothing and personal adornments of 76,000,000 people according to the census of 1900, and exceeds the value of the gold and silver coin and bullion of the United States. It is the greatest corn crop on record and exceeds the average of the preceding five years by 36 per cent. and the price per bushel is greater by 32 per cent.

Cotton is the second crop of the country in value though it falls to practically one-half the aggregate value of corn, or $850,000,000. Wheat comes third with $720,000,000; hay fourth, $665,000,000; oats fifth, $400,000,000. This latter crop exceeds the five year's average by 28 per cent. The sixth in value is potatoes, $212,000,000. Tobacco is seventh of about $100,000,000 valuation, and this is 50 per cent increase over the five year average and has brought to the growers the highest prices since 1883.

The value of the cane sugar of the country aggregates about $40,000,000, while beet sugar and pulp for feeding purposes aggregates about $47,000,000. Barley aggregates $88,000,000; flaxseed $36,000,000; rice 25,000,000; rye $23,000,000, and hops $8,000,000.

The farm value of all cereals in 1909 has never been equalled in previous years. It is almost exactly $3,000,000,000 or 35 per cent above the five year average.

## Teaching Plant Propagation.

POMONA COLLEGE located at Clarement, Los Angeles county, is out with a little folder announcing a departure in education at that institution in a course in plant propagation and planting under the direction of the department of biology. The particular topics to be considered are preparation of soil for seedbeds, planting seeds, variation of treatment for special seeds and special purposes, handling of seedlings, cuttings and layering, methods of budding, grafting, seed collecting and selection, storing, testing, etc. Advanced courses contemplated: Identification of plants, principles of orchard planting, principles of parking, street planting, construction of lawns, etc.

We believe this will be a wise step and can only suggest a more general course touching upon the principles of agriculture in a broader way than is outlined in the above summary of the course. This will no doubt come to this up-to-date institution.

## Demonstration Train.

PROF. W. T. CLARKE of the State University writes regarding the demonstration train trip just ended after tour of the Sacramento Valley; "We met with gratifying reception all along the line. The work seems to be valuable and undoubtedly is appreciated by our farmers." The trip covered a distance of nearly 800 miles, extending to the extreme northern part of the state. Another one is now planned which, according to the itinerary furnished us by Prof. Clarke, reaches Sacramento on the morning of December 14, visiting Auburn, Newcastle, Penryn and Loomis that day. December 15th it will be at Rocklin, Fairoaks and Folsom; December 16, Placervillie, Diamond Springs, Lathrobe and Sacramento. Starting again from Sacramento on the morning of the 17th it goes to Florin and Elk Grove; December 18, Galt, Acampo, Lodi and Stockton, remaining at Stockton over Sunday the 19th. On December 20 it visits Milton, Oakdale, Waterford, Montpelier and Merced; December 21, Atwater, Livingston, and Turlock; December 22, Ceres, Modesto, Ripon, Manteca; December 23, Lathrop; Tracy, Bethany, Byron and Brentwood. This makes a total distance for this trip of 392 miles.

Prof. Clarke will be in charge of the demonstration work. Speakers at places where public meetings will be held are Professors Wickson, Shaw, Major, Haring, Morgan, Jaffa, Bioletti, Burd, Loughridge, Smith and Quayle.

This work is made possible by the liberality of the Southern Pacific railway people who furnish the train complete and bear all the expenses.

## Poultry Number.

NEXT WEEK'S ISSUE of the Cultivator will be given up very largely to a symposium on poultry questions. A series of questions have been sent to breeders of different kinds of fowls in various parts of the state, and these questions have been quite largely answered and are now in type ready for next week's issue. The poultry industry in this state is important enough to be worthy of all the attention given to it by the newspapers, especially when one looks at the immense importations of eggs and poultry products and the large sums sent to the East to pay for them.

The obstacle in the way of the greatest success of this industry in California has been the lack of understanding of the industry by those who have engaged in it. The objection almost invariably raised is that "Feed is too high," but as will be seen by the questions answered in next week's issue, there are many people who are making a success of the business. They buy their feed no cheaper than others may, but they do go at the business with an understanding of its limitations and possibilities. For that reason we believe this number will be particularly valuable in showing methods employed by our successful raisers and some of the points to be avoided. Let us raise more poultry in California and import less.

## A Christmas Suggestion.

THE CULTIVATOR annual offer of subscriptions for Christmas presents is now in order. What can be more appreciated, in proportion to its cost, than a year's subscription to our paper?

Other presents cannot be the constant reminder of the giver that the Cultivator would be on its weekly visits.

In each case where our paper is intended as a Christmas gift we send, with the first number, an announcement of the gift showing the name of the giver. No present can be arranged for so simply and satisfactorily for all concerned. Merely enclose check or money order with order blank which may be found on another page of this issue, and we will do the rest.

As is stated on the order blank all Christmas or gift subscriptions are discontinued at expiration. This date is usually January 1, though we arrange to have the first copy reach the reader as near Christmas day as possible. Now is the time to send orders.

## Deep Well Pumping for Irrigation.

(Continued from Page 539.)

this time. There is a great deal of land in California, not irrigated as yet, where the water will have to be lifted not less than 200 feet and from that up to 300 to 400 feet and this will all have to be irrigated by deep well pumps.

In many places pumps are kept in commission all winter ready to operate at a moment's notice, especially in sections where there is apt to be frost, as it has been found that the water pumped from below the surface, being much warmer than the atmosphere, and run through the orchards on a cold night forms a mist or fog which spreads like a blanket over the whole orchard and prevents frost from affecting the trees or fruit.

From the foregoing it will be seen that deep well pumping has proven successful wherever tried. While still in its infancy deep well pumping for irrigation has accomplished a great deal in reclaiming arid and semi-arid lands, and is certain to become more and more in vogue as we become acquainted with its advantages and realize its place in our western development.

# Agricultural News Notes of the Pacific Coast

## Northern California

Certain land owners in Reclamation district No. 730 have appealed for the formation of a separate reclamation district.

Lincoln, Placer county, is developing a demand for its citrus fruits which are said to be exceptionally fine.

Water will be taken from the Yuba river for the purpose of irrigating about 4000 acres of land in the Cordua district.

The recent rains started plows in nearly all sections of the Sacramento Valley. The storm aggregated an inch and a half to four inches.

The demonstration train which made the trip through the Sacramento Valley last week was greeted by large crowds at nearly every stop.

San Bernardino business men are planing for the erection of a cotton mill in order to be ready to handle the cotton output of the Imperial Valley.

Rufus P. Jennings, for several years chairman of the California Promotion Committee, has tendered his resignation to take effect January 1st.

Calaveras county has a fruit grower who has been experimenting with grafting of walnuts on oak trees and he has succeeded in growing remarkably large fruit.

Rice threshing is under way at Biggs where over 100 varieties used in experimental plantings have been grown. The rains have done no injury to the crop.

The meeting of Placer county fruit growers called by the special committee of fifteen, was held at Loomis last week and the report of the committee accepted.

An exhibit of the products of Glenn county has been gathered by a Pittsburg syndicate and shipped to Chicago where it is doing good service for that county.

Shippers of potatoes in Alturas, Modoc county, are appealing to the Interstate Commerce Commission for relief from unjust discrimination in rates to Nevada points.

Unscrupulous dealers have used the cartons for covering so much inferior butter, that the more reputable makers in Humboldt county are discussing the advisability of discontinuing this expensive plan.

Apple growers at Fort Bidwell, Modoc county, were unable to ship out beautiful red apples because of lack of transportation facilities. Surprise Valley is one of the finest apple producing sections of the world.

Fair Oaks is shipping a small orange grove of a dozen trees, which will give attendants at the National Live Stock Show in Chicago, a little taste of California climate. From Chicago the trees will be taken to the Omaha Corn Fair.

The creameries of Humboldt county paid off their patrons on the 15th on the following basis: Central Creamery, Arcata 39½ cents for butter fat; United, 38½; Capital, 38½; Libby-McNeil Co., 39½; Sunset, 37; Grizzly Bluff, 38.

## Central California

Tulare County Citrus Fair is being held in Dinuba this week.

Kingsburg raisin growers have endorsed the new California Raisin Co.

Thirty thousand rainbow trout were planted in Kern county streams last week.

Work on the weir of Kings River has been discontinued on account of floods caused by the recent storms.

Co-operative marketing of apples by Prunedale apple growers has proved very successful during the season.

The California Dried Fruit Agency has secured a block of land in Fresno for the construction of a mammoth fruit packing warehouse.

It is rumored that the Armour packing interests have secured an option on the great Miller & Lux land holdings in the San Joaquin Valley.

The apple shipments from Pajaro Valley amount to practically 3000 cars, the greater number of course being shipped from Watsonville.

One New York apple buyer spent the season in Watsonville, purchasing over 300 cars of Newtown pippins, paying spot cash on delivery of apples.

One man at Fowler has been called upon to pay $160 balance for freight and expenses on an extra fine lot of raisins sent east through the farmers' union.

The district game warden located at Fresno will liberate a hundred Hungarian patridges in the foothills of eastern Fresno, Tulare and Kern counties.

Kerman's new co-operative creamery is becoming an assured fact and the directors are employing a contractor to superintend the work of construction.

Hanford has produced its premium pumpkin which weighs 200 pounds and is now shipping it to Los Angeles to show the southerners how to grow things.

Tule River, a new citrus section of Tulare county, claims the distinction of shipping the first oranges from the state this season. It is proving to be an excellent orange growing section.

The Raisin Day committee which made such a success of last spring's Raisin Day, has again taken up active work and is now inducing eastern bakers to make raisin bread a regular feature every day.

At the state meeting of the California Farmers Union it was resolved, "That we favor the speedy enactment of laws prohibiting the acquisition of our agricultural lands either in fee or by lease by those who will not or cannot become citizens of the United States."

There were no applicants for examination for county horticultural commissioner of Kings county. Action is being taken by fruit growers who are circulating a petition with the names of B. V. Sharp, J. E. Tilton, C. M. Blowers, A. C. Eccles, and A. W. Lane, from which to make the appointment.

## Southern California

Tustin expects to ship a few cars of holiday oranges.

Calexico proposes to have a cotton gin ready for the next season's crop.

San Diego county is constructing about 450 miles of first-class roadways.

Twelve hundred acres of cotton will be planted by farmers near Calexico in 1910.

The inner harbor of Wilmington received its first cargo since 1882 on November 23rd.

Lompoc, Ventura county, is starting in the apple industry and this year has shipped 25 cars.

The Citrus League is winning its way in the fight for lower freight rates on oranges and lemons.

Heavy shipments of celery began this week. The cool weather has been very favorable to the crop.

A large number of young fish have been planted in the Bear Valley reservoir by the state fish commission.

Some Southern California oranges are being shipped, those from Highlands especially showing good coloring.

All Southern California was visited by a fine rain the night of the 25th. It varied from half an inch to one inch.

The Southern California Sugar Company's sugar plant at Santa Ana closed with a record of 45,000 tons of beets.

A demonstration farm is planned for the San Fernando valley. It is called "Demonstration Acres" and will consist of about 1000 acres.

The California Development Company has begun reconstruction of the canals bringing water from the Colorado river to Imperial Valley.

The bean growers of Ventura county are up in arms over the manner in which the Armsby company are claimed to have handled the Eastern bean market.

Pomona College has established a course in plant propagation, and in connection with the school is a propagating place in charge of Prof. C. F. Baker.

Fillmore, Ventura county, recently held a celebration and barbecue over the completion of a fine steel bridge over the Santa Clara river between that town and Bardsdale.

Some members of Water Company No. 5 in Imperial county have been charged with diverting water from lands to which it was appurtenant to other lands not entitled to it.

Ventura is holding a street carnival, one feature of which is a banquet with every dish composed of beans, from lima bean salad and bean pottage down to bean pudding, bean pie and bean coffee.

The Armsby company are reported to have been interviewed in New York and to have said: "The lima bean farmer needs neither help nor sympathy." Perhaps this is also the attitude of the bean men toward the Armsby company.

## The Coast

Klamath Falls, Oregon, Grange Patrons of Husbandry was organized last week with 22 charter members.

The farmers union at Mansfield, Washington, has succeeded in getting a most satisfactory price for wheat for its members.

A campaign for water conservation and irrigation development is to be taken up in Oregon so as to insure more regular crops.

Wheatgrowers at Waterville, Washington, are compelled to store great quantities of wheat because they can get no cars to handle shipments.

The Hawaiian Sugar Planters' Association recently held its annual meeting in Honolulu and received reports which indicate an immense crop of sugar.

U. S. Experimental farm located near Yuma, Arizona, secured many first premiums, especially on exhibits of growing cotton, at the recent territorial fair.

The sweepstakes winning on apples at the National Apple Show went to Rogue River, Oregon, apples. North Yakima, Washington, was a close second.

The display and the crowds at the National Apple Show at Spokane were even greater than anticipated, and the show was declared a success in every sense.

The Coquille Valley Fruit Growers Association and Coos Bay Association, at Marshallfield, Oregon, have sold their winter apples to one fruit buyer of Seattle.

Arizona stock growers are requesting the territorial legislature to enact laws providing a penalty for failure of railroads to provide proper and adequate stock cars.

Nine years ago a farmer in the Hood River Valley, Oregon, bought 40 acres of land at $15 per acre. The entire tract was set to apples and today is valued at $1500 per acre.

The state experimental farm at Union, Oregon, has been experimenting for several years with grasses and grains, and will this year begin the purchase of thoroughbred livestock for experimental purposes.

Apple growers at the National Apple Show at Spokane, protested against the change of name of the old favorite apple, Rome Beauty, to Roman Beauty. They maintain that Rome Beauty is the only correct name.

One feature of the National Apple Show at Spokane was Country Life Day at which a committee was appointed and charged with the duty of securing from governors of the Pacific Northwestern States a joint commission on country life.

At the fifth annual meeting of the Arizona Cattle Growers' Association at Phoenix recently, the following officers were elected: W. W. Cook, Phoenix, president; Wm. M. Riggs, Dos Cabezas, first vice-president; Fred Colter, Springville, second vice-president; O. H. Christy, Phoenix, treasurer; F. W. Wilson, Phoenix, secretary.

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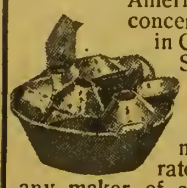

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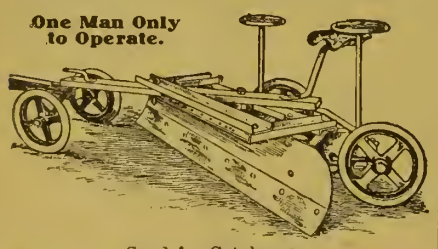

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# Live Stock and Dairy

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### SORGHUM AND CEREALS.

By Mrs. M. E. Sherman.

THE GERMAN dietitians say that in America we make horse feed of the best vegetable that grows, namely, carrots. We also turn aside as human food the grains of the sorghum plants. If Mr. Hill's cry of the scarcity of food that is confronting the world in the decreasing wheat crop is true, we will find food in the sorghum plant. China and Turkestan use the seeds of the non-saccharine sorghums largely as food, while no doubt, Mr. Roosevelt has eaten of the bread made in Africa from the flour of these corns ground in the native mills. I always think one of the interesting things about going among foreign people is the complete change of foods, if we are wise enough to live as the natives do in every country visited. When I leave the United States I like to leave behind me the ways of a United Statess. I presume that will answer for the feminine form of the word.

The two types of sorghums are the saccharine and the non-saccharine. The saccharine sorghums contain much sugar and make a sweetly sour syrup. This was common when I was a little girl in the East owing to the high prices of sugar and the lack of money in the farming districts. It is a thought worth while, when it is considered how independent we are after all on a farm when we can grow our sweetening in one season and can make coffee out of browned sweet potatoes flavored with chicory. The only food I could not grow a good imitation of in one season would be tea. I mean the only food in everyday use, not the rarer condiments and tropical fruits.

Sorghum is represented in the sweet or sugar types by the early amber cane. This comes under several forms but is not as mixed up as the non-saccharine corns. There is little unmixed seed to be found of any form of sorghum in the market. I have had to keep sorting the heads as they grew in the field, and after four years have gotten rid of broom and kaffir corn mixture. These are not as valuable for cow feeding as the sweet sorghum, as they have woody, pithy stems and are not eaten up clean. When made into silage the cattle reject a large portion of the stalks. The woody character of these stalks is found when the waste is thrown out to rot. I have had them in a sink hole that had water in it for two years and they lasted as long as the grape vine brush.

Milo maize, kaffir corn, doura and the rest, are often sold one for the other in the market. Egyptian corn also has its varieties, red, white and black according to the color of the seed. The white is the most valuable as it has harder kernel and ripens better. It also shells easier as the birds know. A crop of it is often harvested before the owner can reach it by these busy little ones. The red corn does not harden up as well and while the birds do not trouble it greatly, it is not as valuable as it will not keep very well. The black is worthless as it is too soft to keep. All these corns may be fed in the head without thrashing, to horses and stock cattle. When in use for cows it always seems to cut down the milk flow if fed in the head. I have fed it by soaking it soft and mixing it in with the grain food, making the food wet enough to cling together, but not a slop. The greatness of the sorghum crop is hardly realized in the San Joaquin Valley, yet it should be a crop planted in all portions where the irrigation water is not abundant. In Kansas where it is too dry to grow wheat there are planted two hundred and fifteen thousand acres of kaffir corn alone, Egyptian corn nearly half as much, and the other corns as milo maize and brown doura, about one-quarter more.

I saw one of the new sub-varieties sent out by the Government the other day at Modesto. It was sent to several farmers by Mr. Needham under the name of Dwarf Milo Maize. The seed heads are nearly solid, they are so densely full of seed. The color is white and the kernels seemed hard and well cured to the center of the mass. The height of the crop seen from the auto looked about five to six feet as it stood in the field. The heads brought into the house were more closely examined. I was sorry I did not weigh them. This corn seems to be valuable as it was not destroyed by the birds and gave three times as much seeds to each head as average Egyptian corn. Ordinary milo maize at the Louisiana Station gave a yield of thirty-nine bushels of seed and thirteen tons of cured fodder to the acre.

#### Other Considerations.

Sorghum is undoubtedly hard on the land because it draws out the moisture. It is as gross a water gatherer as the eucalyptus tree, and like it will make a growth on a minimum if it has to do so, but it will rustle all the moisture in the neighborhood. On the heavy, too wet soils on the ranch this property has proved of value. On a field that is disposed to be boggy a crop of sorghum makes the soil easier to handle the next winter.

Now as to the cereal crops that should go into the ground at once for winter pasturing of the cows: Rye will come the quickest into a thick green growth, then barley comes next with wheat and oats to follow. These can be sown in small lots of an acre and fed down for a couple of months, then allowed to grow into a hay crop. We should try to do more of this form of cropping in California instead of allowing the stock to tramp the life out of the alfalfa fields during the winter months. Rye and barley fed green are apt to taste the milk, but this of course is all outside of the cow. Milk is sterile except in diseased animals and tainting comes from outside influences. The cows should be brought in and allowed to eat hay or other food in the cor-


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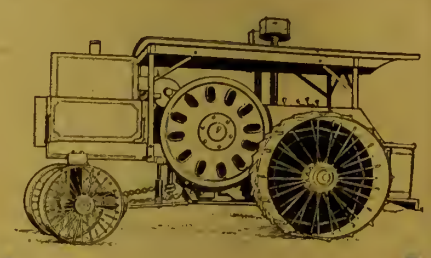

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ral for a couple of hours before milking time. It is so very simple to control these bad flavors that they are inexcusable in milk. Oats can now be sown with peas and makes one of the most valuable crops of all for the cows and horses. This too may be pastured for a couple of months and then let grow up for hay. It should be cut when the oats are in milk stage of ripeness without regard to peas. When this is made into silage the turkeys soon find the peas and it is amusing to see the cows and turkeys scramble for them. The turkeys will almost get on the cows' heads in their eagerness to pick out the peas.

Another summer crop I have never seen in my neighborhood is teosinte. This looks and acts like sorghum, but is even a heavier cropper, going as high as fifty tons to the acre. The difficulty with all these crops is in the seeds. They are expensive at first and it is a mistake to buy more than enough for half an acre the first year. Then select the seed from it yourself for the following year's seeding. One of my neighbors told me he paid twenty cents a pound for sorghum seed. This seemed to me terrible, for good fairly clean seed sold for $40.00 a ton while common mixed seed brought $30.00. I am anxious to see his seed to find if it was so much better or if the local merchant simply soaked him as a faddist.—M. E. Sherman.

## CARE OF THE DAIRY COW.

If the dairy cow is worth caring for at all she is worth caring for well. That is my text. On that platform I have seen men start out in life as renters with a few cows and in a comparatively few years be farming their own land and be rated among the most prosperous and influential farmers in the community.

On this same platform breeders of dairy cattle have made their herds famous and others have set records in production from time to time. If the man who cared for the cows in the St. Louis World's Fair test hadn't been of a mind to do things to the best of his knowledge while he was doing them, he would never have discovered and made a record with that now famous cow, Loretta D. I never expect to raise any cows myself that will ever produce, say, more than 400 or 500 pounds of butter a year, and some who read this may think that it is foolish to try to learn anything from these extreme examples of what good care will do for a cow, but on the other hand, I believe that a study of them is the best use to which one can put his spare time. They show us the possibilities. We can then decide what is possible for us to do and plan and work accordingly.

How this famous cow was cared for in order to average 42 cents a day net profit on butter is interesting, even though it has been told a good many times. It is said that she was an animal plainly showing her likes and dislikes. She was particularly fond of alfalfa hay and ate more by far than any other cows in the test. The feeder soon found this out and always saw to it that she was well supplied. He further found that she liked corn meal and oats probably better than any other grain combination, so she got a good allowance of that regularly. It was also found that she had likes and dislikes in other things. For instance, in the way she was watered and the time she was milked. I presume she didn't like to be milked when she was eating. At any rate, the fact remains that her peculiarities were found and catered to, and for that reason, probably as much as for any other, she made her record.

Now, how can we apply the lesson? I do not mean to the care of any one cow, but to the care of the whole herd. It is not an uncommon practice with many farmers in this section, and I know it is true in many other parts, to allow the milch cows to run with the stock cattle and horses. Now, good cows, as I have observed them, are the most docile creatures on the farm and like to roam around the yards or go out to the fields in their own good time. Whenever they have to run with the other cattle they cannot do this. They are crowded out at the watering trough, horned and chased and hurried through gates. Thus their energies are directed from the digestion of food and the making of milk to things which do not profit. For this reason I believe that it will pay every man to have a separate lot for his cows where they will feel secure from annoyances of this kind. I know it pays me.

Inside the stable, stalls and stanchions ought to be arranged so that each cow can take her own good time to eat without being hurried, lest the cow next her should get through first and begin to steal. This is sure to happen if any kind of systematic feeding is done, as some cows will need more grain than others. The privacy of each cow, of course, is a matter of stable arrangement. In this connection I want to say that I do not like the common plan of having cows and horses stand face to face, separated by an alley. I believe cows and horses ought to be in saparate parts of the barn. When cows are comfortable, I feel that they are being cared for just about right, and comfort, it is needless to say, is gained only when the cow is amply satisfied at the feed box and rack and protected from factors which will disturb her in any way.—Des Moines Homestead.

## WHITE SCOUR IN CALVES.

Having often noticed inquiries in various papers for remedies for White Scour in calves, perhaps a method of treatment I have followed may be successfully adopted by others. With us the egg cure is the most effective of all we tried. Sometimes the calves would be so bad that they could only lie on their sides and pant.

We would break an egg so that it would pour nicely, and slowly empty it down the calf's throat out of a gravy boat or anything handy. An egg was given three or four times a day; sometimes it would take, perhaps, 3 dozen to make matters right but eggs are usually plentiful and cheap when scours are prevalent. As soon as the ailment is noticed, reduce the milk allowance to quite half, and when very bad give nothing but eggs, gradually coming back to the milk allowance. Clean, warm and dry quarters are necessary for young calves. I think White Scour is most prevalent during the wet weather in early spring, especially if hot and muggy.

For any looseness of the bowels, we mix, say a pint of lime water in


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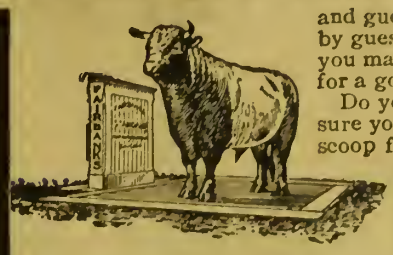

and guess you had paid the right amount? Yet, by guessing the weight of your stock and produce you may lose enough money every year to pay for a good scale.

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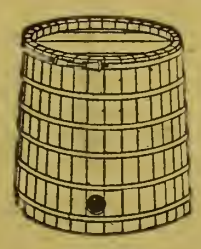

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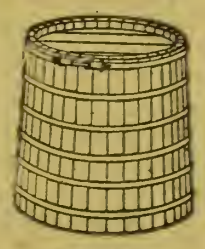

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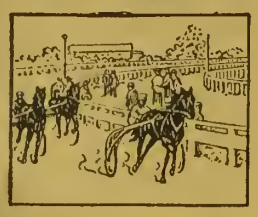
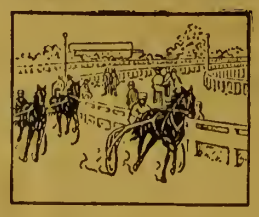


OF THE WONDERFUL WORLD CHAMPION

## DAN PATCH 1:55



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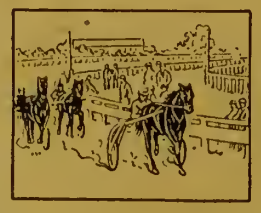

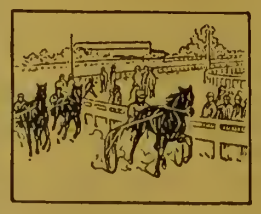

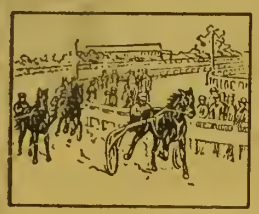

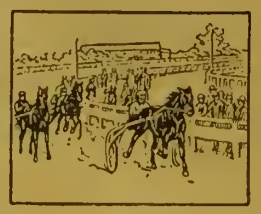

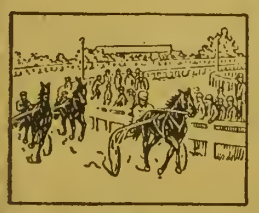

THIS IS THE LATEST HORSE SENSATION AND GREATEST TRIUMPH IN THE MARVELOUS AND REALISTIC MOVING PICTURE ART.

It is a New Invention that you can carry in your pocket and show your friends instantly, day or night, either once or a hundred times and without a machine, curtain or light. It is the first successful moving picture ever taken of a World Champion Horse in his wonderful burst of speed. A marvelous race sensation.

**A MILE OF THRILLING RACE PICTURES**
**2400 MOVING RACE PICTURES OF DAN PATCH 1:55**

and every picture shows the King of all Horse Creation as plainly as if you stood on the track and actually saw Dan Patch 1:55 in one of his thrilling speed exhibitions for a full mile. 2400 distinct moving pictures taken of Dan in one minute and fifty-five seconds means twenty-one pictures taken every second all of the way around the entire mile track from the back seat of a high power automobile. You can see Dan shake his head to let his driver know that he is ready for a supreme effort and then you can watch every movement of his legs as he flies through the air with his tremendous stride of 29 feet. You can see his thrilling finish as he strains every nerve to reach the wire, you can see his driver dismount and look at his watch while thousands of people crowd around, you can see his caretaker force his way through the crowd and throw a beautiful woolen blanket over Dan to prevent his catching cold and then you can follow him up the track before the madly cheering multitudes. As a study of horse motion it is better than the actual speed mile because you can see Dan right before you for every foot of the entire mile. When first shown to the public this marvelous picture caused people to stand up all over the theatre calling "Come on Dan"—"Come on Dan."

This remarkable moving picture is the most realistic and the most thrilling ever presented to the public. My Free Offer Subject To Withdrawal Without Further Notice.

I have taken a part of the original 2400 wonderful and sensational pictures and made them into a Newly Invented Moving Picture that you can carry in your pocket and show to your friends at any time, day or night. It does not need a machine, it does not need a curtain and it does not need a light. It is all ready to show instantly either once or a hundred times and Creates A Sensation Wherever Shown.

**THIS MOVING PICTURE WILL BE MAILED TO YOU ABSOLUTELY FREE, WITH POSTAGE PREPAID, IF YOU ARE A FARMER, STOCKMAN OR POULTRY RAISER AND CORRECTLY ANSWER THE THREE QUESTIONS.**

If You Are A Farmer, Stockman Or Poultry Raiser I Require A Correct Answer To These Three Questions. ——→ You Must Answer These Questions.

**1st.** In what paper did you see my Moving Picture Offer? **2nd.** How many head Each of Horses, Cattle, Sheep, Hogs and Poultry do you own? **3rd.** How many acres of land do you own or how many acres of land do you rent?

☞I Personally Guarantee To You One Of These Wonderful Moving Pictures Free If You Are A Stockowner And Answer These Questions And Write Me Today. Signed—M. W. SAVAGE.

**IF YOU ARE NOT A STOCKOWNER AND WANT THE MOVING PICTURES SEND ME 25 CENTS FOR POSTAGE**

Packing, etc., In Silver or Stamps and I will mail you this Wonderful Moving Picture of Dan Patch 1:55, the fastest harness horse the world has ever seen.—If you send me Twenty-five Cents in Silver or Stamps—EVEN if you do not own any stock or land, I will mail it to you postage prepaid. Reproduction cost me thousands of dollars.
*F. A. Holley, Waverly, Neb., Won Forest Patch Contest.* ☞ Address

Largest Stock Food Factory in the World.
Cash Capital $2,000,000.

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M. W. SAVAGE, Proprietor MINNEAPOLIS, MINN.

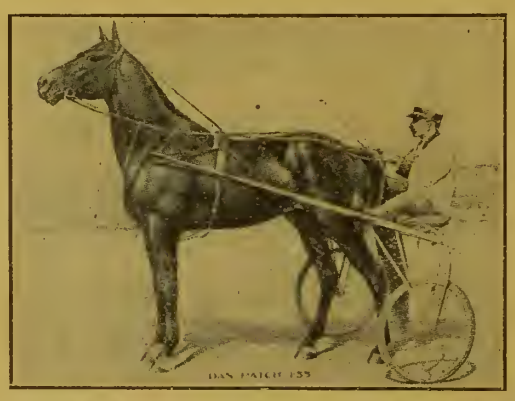


# International Stock Food

**Dan Patch,** 1.55, and **Minor Heir,** 1.59½, the two greatest horses in the world, are

**Fed Every Day on International Stock Food**

The best stock food in the world.



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California and Arizona Agents

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SAFE-PROMPT-SUCCESSFUL TREATMENT FOR THE MANY AFFLICTIONS OF THE HORSE & OTHER DOMESTIC ANIMALS.

CAN BE USED TO BLISTER, OR NOT-AS NEEDED. FULL DIRECTIONS.

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H.H.MOORE & SONS. MFG'RS. AND PROPRIETORS STOCKTON CALIF


The citrus exchange of Anaheim now controls about 125 cars of fruit.

the calf's feed for a day, but with the poddies always give the eggs for the curdy and bloody stage. We place the affected animals on a bag out in the sun and persevere with them, and I have seen some very bad cases recover; in fact, we rarely lost one after the treatment described.—Journal of Agriculture of Victoria.

## CATTLE TICKS LESSEN YIELD OF BEEF AND MILK.

A cattle tick that has reached the engorged stage weighs about 5 grains, and about 1,500 such ticks weigh a pound. As cattle in the tick region often carry many thousands of these blood-sucking parasites, and as each tick during the period of its attachment to an animal draws considerably more than its own weight in blood, it can be seen that these ticks constitute an enormous drain on the cattle which they infest. This accounts for the fact that under such conditions it is impossible to fatten cattle even on rich pasture and with an abundance of good feed. A large part of the nourishment that should go toward producing beef and milk is consumed by the ticks. In addition to the loss of blood and nourishment there is the never-ceasing irritation caused by the ticks, so that the existence of the infested cattle is beset with continuous suffering, and this of course also tends to keep them in poor condition.

The shrinkage in the milk production of a cow harboring many ticks will average one quart a day, and the loss occasioned thereby at 3 cents a quart for the 875,000 ticky dairy cattle out of more than 4,000,000 below the quarantine line would amount to $26,250 a day. Counting 300 milking days for each cow to the year would make the loss from this cause $7,875,000 per annum.

## DOES IT PAY TO STRIP THE COWS?

Look at the figures below, which are the averages taken from ten different cows' milk tested separately immediately after six consecutive milkings, and then decide for yourself:

No. 1.—Average test of first pint of milk drawn, 1.38 per cent.

No. 2.—Average test balance of milk, except final strippings, 3.35 per cent.

No. 3.—Average test of last pint of strippings, 8.72 per cent.

The strippings from one of the cows tested 12.5 per cent butter fat.

Every milker succeeds in getting the milk shown in No. 1 and No. 2, but the careless and thoughtless milker does not get the milk shown in No. 3. The result of this neglect and carelessness on the part of the milker is detrimental to the owner in the following ways:

1.—A shortening of the cow's milking period.

2.—A material loss in the number of pounds of butterfat the cow produces in a year.

3.—A considerable loss in the number of pound of milk the cow produces in a year.

4.—A much greater danger of the udder becoming diseased and ruined for milking purposes.

Are you getting that last pint of strippings from each of your cows, which is such an important item in determining the final results of profitable dairying?—Hints and Helps.

**Do your cows milk hard? Send 50 cents for teat expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

# Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

## LINE-BREEDING FOR BEGINNERS.

By Mrs. Frank Metcalf.

LINE-BREEDING is keeping in line with the blood of one family until one perfects a strain of fowls that will be prepotent and reproduce their kind, which can never be done by continual out breeding.

Strains and families have been bred in line for more than twenty-five years without a drop of fresh blood being introduced, and have increased in vigor and fine qualities until the owners would as soon think of going out of business as of using a bird not related to their own. This can only be done by painstaking and particular people, and only those with a scientific turn of mind can succeed for so long a time without trouble. I will briefly outline a plan whereby one can begin this interesting study and sketch out for a rough guide a chart which I think can be easily understood. We must also have a chart for the toe-marking of the chicks, and will find a small punch indispensable. The toe-marking must be done while the chicks are a day or two old, lest they bleed and the others learn to peck at the blood and get into cannibal habits.

A book must be kept for this one purpose; to keep a record of each chick's pedigree by putting down its particular toe-mark, and the pen it was from, as soon as the hatch is taken off. Then when mating time comes, it is a simple matter to select our breeders, and mate them according to rule. Usually the way one begins is to select the very best pair one can procure of the chosen breed, although a trio or pen would be equally as good, and the results be the same if all proved to be good breeders, but we will start out as though we had just the one fine pair.

For the sake of having a name, we will say the cock is called Darby and the hen Joan, and that they are both birds whose excellent points we wish to perpetuate. The female is supposed to determine the shape, and the male the color of the progeny, but we want just as few faults in this, our first pair, as it is possible to find. While the influence of one parent may counteract the deficiencies of the other in the first generation, in succeeding generations we may find a crop of these faults spring out in unlooked for directions, just as insanity may skip one generation in the human family only to crop out in the next, etc. It is well to leg-band the first pair with a pair of sealed leg-bands, numbered, and with the number written down at the beginning of our Record book.

The first year we should raise all we can from this pair, and toe-mark them say, between the first and second toes of the right foot, the chicks being one-half the blood of sire and dam, respectively.

Reserve only the best birds, and save an extra cockerel or two which you may either farm out or mate with your less desirable pullets and use those eggs for culinary purposes. The second year we mate the male, Darby, to this best daughters, and the hen, Joan, to her best son, toe-marking the chicks, say, Joan's chicks in the left foot, between the first and second toes, and Darby's between the second and last toes, right foot. Darby and daughters we call pen 2 A, and Joan and son, Pen 2 B, and the progeny from this lot, will be three-quarters the blood of either dam or sire, as the case may be.

The third year we mate four pens; Darby to grand-daughters, Pen 3 A. A. and Joan to her best grandson, Pen 3 B B. Also the best son from Darby and daughters to his mother pen, and Cock from Pen 2 B to his own daughters. These matings intensify the line on each side, so that now our A, or male, side has seven-eighths the blood of the sire, and the B, or female side has seven-eighths the blood of the dam.

The fourth year, if Darby and Joan are still worth while, they may be mated together again, but as something usually happens by this time to one or both, I have arranged as follows: Pen 4 A to consist of cock from pen 3 A to his daughters, and pen 4 A X, (one of the reserve force of cocks which should be saved every year) to pullets that are really his nieces. This mating is original with me so far as I know, and I found it excellent for vigor and other good results. Now if we take a cockerel from our pen 4 A A, and mate him to pullets from pen 3 B B, and vice-versa, as per chart, we bring the blood of the sire and dam together again, and the progeny of these two matings would be the same as the blood of the original pair. If this mating produces as fine birds as the first pair were, and continues the size and laying qualities as it should, the mating should be continued for as long as the birds produce well, and the progeny be used on either side in the mating of as many pens as we care to handle only taking care to always mate birds of different ages, say cocks with pullets and cockerels with hens, still keeping a record of the toe-marks for guidance, and remembering that each marriage of an A to a B brings them more like brother and sister, and keeping the male line and the female line exactly as in the beginning. As our Standard changes every five years, sometimes it is well to have fresh blood on hand, providing we may need it, to gain a certain point in which our strain may be lacking.

Now, to introduce fresh blood properly, one should select a well matured pullet from a flock that is strong as a flock, not as individuals, in the point we wish to emphasize. Mate this female to our finest male. and one on the reserve force, if possible, and note the progeny, whether it "nicks in" with our own or not. If it is not entirely satisfactory, yet shows a goodly number having the point we are after, we may mate her daughters back to their own sire and the progeny from this second mating should be sufficiently safe to mate with part of our own flock. Lest there should be some latent defects that this mingling of blood should bring out, we should keep part of


# Petaluma Incubators and Brooders

***Awarded GRAND PRIZE at Alaska-Yukon-Pacific Exposition, Seattle, Wash.; Two First Prizes and Silver Medal at the late California State Fair***

***Petaluma Poultrymen*** in accordance with their aim of attaining the highest degree of efficiency have steadily selected ***Petaluma Incubators*** and ***Brooders***—the Standard of the World.

We have equipped all the big poultry plants and have several contracts to complete before January 1st, 1910.

One firm of poultrymen has 47 504-egg Petaluma Incubators giving a capacity of 24,000 eggs at one time.

We also have contracts to equip a number of plants with from 10 to 20 504-egg ***Petaluma Incubators,*** besides dozens of poultry ranches with smaller numbers of machines.

***Winners of More Prizes Awarded by World's Fair Judges Than Any Other Make***

We have stated before and we ***again*** state that more Petaluma Incubators and Brooders are used than all other makes combined in Petaluma and all that great section of the country west of the Rocky Mountains, which is more than one-third of the entire United States, and the Petaluma is fast reaching a similar position among Eastern poultrymen. As rapidly as its merits become known does it supplant all other kinds.

## Midland Poultry Feed

Is the best ground mixed feed and hundreds of the successful chicken raisers use no other. Ask for it and take no other.

## Petaluma Incubator Company

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Our General Agents for Incubators and Brooders and Midland Poultry Food:

**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**

# West Coast Egg Food

***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

# EGG-MORE

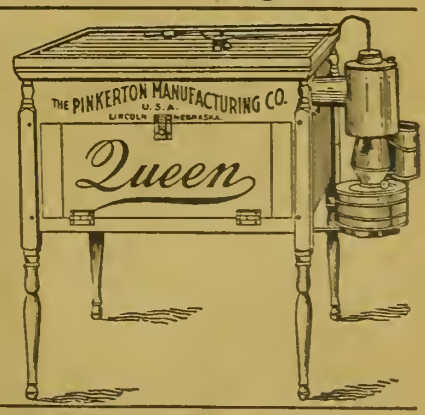
This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90, 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

## West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

## CLOSING OUT SALE

We have on hand about sixty of the latest Model Queen Incubators of the following sizes: 80, 110, 220 and 340 egg sizes. These we wish to close out quickly at the LOWEST PRICE ANY INCUBATOR WAS ever sold at. We don't want to spend a lot of money in advertising them. We will make the price sell them. Send for big free catalog and get the best bargain ever offered. Free trial, and five year guarantee.




## Queen Agency Co.

**108 E. 8th St. Los Angeles, Cal.**

## MRS. C. D. HUBBARD'S WHITE WYANDOTTES

Eggs for hatching September 1st '09. Write for circular.

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**Out Door 1910 Style**

**Fireless Brooder Now Ready**

The best fireless brooder ever made at any price. Double walls, extra good heavy hover and board, rain, weather, rat and fool proof. Mistakes can't be made. Our experience is gained by handling 630,000 chicks this past year. Thousands of them in these brooders. We make both indoor and outdoor fireless brooders. Send for circular today.

This 150 chick outdoor brooder as illustrated $7. We pay freight. Order right now.

**McClanahan Co.** 112 East 8th St Los Angeles

**White Leghorns**

***A Standard Strain of Great Layers and Great Winners***

None Superior. Prices Reasonable. Booklet descriptive of our stock and farm, containing recipe for mixing the best and cheapest egg-producing mash, sent free. Eggs, stock and baby chicks for sale. Also a grand lot of cockerels.

***Model Poultry Farm***

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PRODUCES STRONGER, HEALTHIER CHICKS THAN ANY HEATED BROODER

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NO LAMPS. NO OIL BILL. NO DANGER OF FIRE

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Coulson Co. Gen. Sales Agts Box C. Petaluma Cal.

**STANDARD EGG FOOD**

The kind that makes hens lay when other foods fail.

**90 Lb. Sack $2.35**

**Acme Roup Cure is Guaranteed. 50c Postpaid.**

**HENRY ALBERS CO., 845** S. Spring St. Los Angeles

**One Thousand Laying Hens $10 per Doz.**

We have one thousand pure bred White Leghorn laying hens to offer at $10 per dozen. They are from 10 to 12 months old, mostly January hatched. We will accept orders for them at the above price as long as they last. Send your order today and we can ship at once, no charge for boxing for shipment. All of these are over the moult and are genuine bargains. We sell all kinds. Send for 1910 chick and egg book, 32 pages illustrated, it's free.

We are selling 2500 baby chicks per week at present, mostly Reds and Barred Rocks, and Leghorns.

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Also POULTRY SUPPLIES.

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**Bluestem Wheat** **Choice Common and Chevalier Barley**

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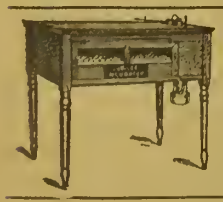

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This Incubator pleases every one, and NEVER disappoints anyone. It is known the world over as the BEST hatching machine EVER BUILT. If you wish to get the BEST results, then use the JUBILEE. Our Catalog tells all about it.

**JUBILEE INCUBATOR CO.,** Sunnyvale, Santa Clara Co., Cal.

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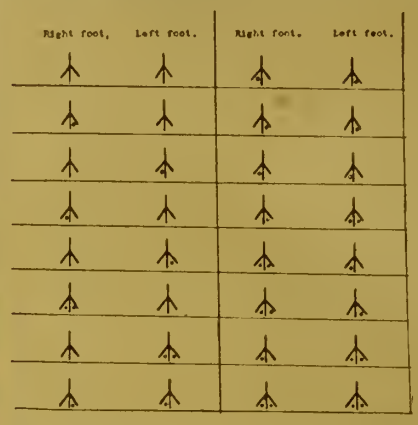
our flock pure from this out-breeding, and we will then be on the safe side should bad results follow. Never use a male bird for out breeding unless you are perfectly sure that the general flock from which he came is superior to your own, and do not be disappointed then, if the progeny is not up to the mark. And be sure of the ancestry of your "fresh blood" too. I remember once looking about for fresh blood for my R. I. Reds. A man in Illinois offered me some fine ones in exchange, sent feathers and description, showing that he "had the goods," and I only waited to know where he got his stock before making the exchange." He got them from a preacher in Iowa," giving name and address, and here they were the very identical birds I had sold this preacher a couple of years before, and which I came so near getting back as fresh blood again. Fine birds they certainly were, but not at all what I needed.

I have not outlined the different toe-markings, as one can do that by the chart to suit one's self, there be-




ing 16 different ways of marking the web of the feet so one can vary the punchings as he wishes. As one studies the system, different matings may be evolved, and the work will become more fascinating every year.

A few don'ts must be added or this would not be complete. Don't let your cull cockerels run with your best pullets to maturity which comes at from four months old upwards. Don't expect to raise pure bred stock if your hens and pullets ever have strange males visit them. Contamination of the female may last her lifetime, for the blood of the embryo chick and the blood of the hen commingle before the shell is formed upon the egg, just as surely as does the blood of the embryo mammal and dam commingle, thus allowing the dam, through her unborn offspring, to partake of the blood of the sire.

The inbreeding phantom, and the fear of consequences therefrom have caused more disasters in the fancy poultry business than anything else. To be sure, injudicious inbreeding, by which cockerels and pullets of the same age and from the same stock are bred together year after year, will eventually reduce the size and vigor to a great extent, but the line-breeding as outlined in the chart, can be carried on successfully for a much longer period than a novice would believe. In introducing fresh blood, one cannot always tell just what trouble is in store. I will cite one instance from my own experience to show how mischief may be done, when one feels quite sure one is on the safe side.

Two years before I wished fresh blood for my Buckeyes, I had sold to an enthusiastic young breeder, a fine pen of line bred Buckeyes from one of my best families. Now, I reasoned that it would be perfectly safe to use a fine cockerel or two from that pen in my own flock, as they were just what I wanted to strengthen certain points in another family line, so bought as fine a bird as the owner would sell, and he was a beauty, and just what I seemed to need. I mated him with some of my best females, and was surprised to find that the mating threw chicks that were partly white. Not a decent chick did I get from the mating, and when that beautiful, dark red rooster molted, I noticed a queer appearance about him, for he looked as though some one had thrown snow or flour all over his back in patches. I caught him and found the white spots were new feathers, purely white, which did not appear in his first coat at all.

Inquiry developed the fact that the young man had a pen of white Rocks on the place, and during the months when no eggs were wanted for hatching purposes, it was his plan to let all his chickens run at large, trusting to a couple of weeks mating before saving the eggs, as being sufficient to make those eggs pure again. And authorities have maintained for years that this was sufficient. The results above prove how fallacious that theory is.

If there are undesirable roosters prowling around, shut your hens and pullets safely away from contact with them, or your hopes of fine-bred stock will go glimmering. And, after all your care and trouble, and you have a flock which will reproduce its top-notch qualities year after year, so that even culls from your birds will produce better birds than the best looking birds from carelessly bred flocks, how hard it is to feel Christian towards the expectant buyer, who wants the very best birds you have, and who offers you $1.00 a head if allowed to pick them out himself; or to the other well meaning fellow who will "trade eggs with you" and select for your benefit the smallest ones he has, and makes the remark that "fancy feathers look well. but they don't pay." Truly the fanciers fate is a varied one, and he does not reach the top round of the ladder on a "flowery bed of ease" by any manner of means. But he has his moments of satisfaction, and the best possible reward of earnest effort is the ability to do.

## "DONT'S" IN TURKEY RAISING.

It would be difficult to tell all the "Dont's" in turkey culture. The most prominent of all is: Don't breed from stock that lacks vitality. Blackhead is prevalent among turkeys, and it is almost certain to come into the flock where vitality is lacking.

When the poults are hatched, be careful that they are free from insects. Lice are found on the head and neck of turkeys, between the feathers of the wings and close up under the wing against the body. These insects destroy many young turkeys.

Do not permit turkeys to run in the damp, wet grass until they are at least four weeks old. The first food for the young turkeys should be bread crumbs with a little rolled oats, just a little at a time frequently. Keep the turkeys confined where they can not wander away, and do not give them moist food or heavy grain at first. Where a large number are grown, the heads of the young are rubbed over with sweet oil, lard, or vaseline, to insure against the pres-

ence of the insects. Some declare that one little turkey must die for every five head lice found in the flock. They crawl into the rough places about the head and neck and suck the blood from their bodies.

After they are a week old, the turkeys should be fed with bread crumbs, chick food, finely cracked corn, and broken wheat, the same as young chicks are fed. Some recommended feeding hard-boiled eggs. This is not best until after they are two weeks old. When hard-boiled eggs are fed, the eggs should be boiled at least thirty minutes, then ground up very fine, shell and all, and mixed with equal parts of bread crumbs and oatmeal. After this, hulled oats, broken wheat, and finely cracked corn may be fed. A small portion of milk curds is good for the young poults; too much of this will destroy them—a tablespoonful to a dozen is sufficient at a time. As soon as young turkeys are able to fly onto a fence to roost, they are past all ailments caused by water or insects.

Don't feed your turkeys wet mash, raw corn meal moistened with water or milk. Don't give the small turkeys whole wheat and large pieces of corn until they are fairly well grown. Don't permit the mother hen to lead them away while the grass is wet.

Some follow the plan of breaking up broody turkey hens when they first show signs of broodiness. If this is done successfully, they will lay again, and then they are permitted to hatch their own eggs, the first eggs laid being hatched under ordinary hens. Turkeys raised by the latter will wander away with the other turkey flocks as they become partly grown. Turkeys hatched June 1 often do better than those hatched earlier.

Eggs laid by young turkey hens that are 2 years old or older are superior to those laid by the birds in their first year.—N. W. Poultry Journal.

### FRUIT, POULTRY AND BEES.

Poultry husbandry, fruitgrowing and beekeeping form a combination that cannot be commended too highly. Each branch in its fullest and most profitable development is dependent upon the other and together they form an ideal occupation for a person who enjoys country life, but who is not rugged enough to undertake the work of conducting a more extensive system of agriculture.

The poultry will destroy thousands of harmful insects, thus they greatly benefit the fruit trees and increase the prospects for fruit, while the poultry themselves will gain great comfort and benefit from the protecting shade of the trees during the warm summer weather.

Plum trees and cherry trees are especially adapted to the poultry yard and are greatly benefited by the presence of fowls about their roots. Peach trees will grow more rapidly and soonest provide an abundant shade. With all our spraying and trapping, the insects do get past us. The fowls may not get all that remain, but they and the little chickens will get many of them. Poultry like the fruit and fowls in an orchard will eat the immature fruits as they fall and in doing so they kill off the the worms that caused these fruits to fall prematurely. Have you ever watched a flock of little chicks in an orchard? They are all the time chasing and hunting insects, many of them so small we can hardly see them, but we know when a tiny chick catches one by its self-satisfied manner. The chicken has perhaps saved a number of apples and the insects and exercise go to promote a healthly development of the chick. The fowls also destroy the root enemies of the tree and they do it without damaging the rootlets as is oftentimes done by a thorough cultivation.

Many a fruit grower fails to properly cultivate his orchard for fear he will peel the trunks of the trees and damage the rootlets by doing the work. Just cut the soil under the trees and scatter fine seed and the fowls will do the work just right. They will also enrich the soil while they are doing the work. We may take two trees of the same age and size and plant one in the poultry yard and one outside and in the difference in the vigor and growth can be noted at the end of the season.

The person who has a fancy egg trade will find that his regular customers are the very ones who most want choice fruit and fresh honey and they are the people who have the ready money to pay for all they get. By practicing these three branches we eliminate the profits of all the middlemen and derive every cent there is in the business. The person who has learned that it pays to put up nice, clean, fancy eggs is just the man to handle the fruit and honey in a manner so that people will buy it, whether they really need it or not. There are people who want the best regardless of price and they are the ones it pays to deal with every time when we have a prime article.—Portland Oregonian.

### CHARCOAL FOR HENS.

There is nothing better to keep fowls in healthy condition than charcoal. Indeed it will astonish one not accustomed to feeding it to see the quantity the birds will eat, if it is kept where they can get it if wanted. It will keep their digestive organs in good working order and overcome in a great measure mistakes in feeding or over-feeding. A sour, hard crop and drooping head with purple comb is seldom seen where hens have charcoal. If there is any clearing of land, burning of brush, and old logs, the charcoal may be procured there by drenching the fire with water as soon as it is burned down to coals. These, broken to the right size, answer the purpose very well and hard-wood ashes in which are small pieces of coal from the fire are much liked by fowls. A shallow box filled with such ashes will materially decrease in a short time and seem to exercise the same power as charcoal.

Coal ashes are liked to dust in and fowls will eat the hard stony pieces of a size that they can swallow, but they are not so healthful as charcoal or hard-wood ashes. In buying charcoal get the coarse ground kind and place it where the birds can go to it at will. If the powdered kind is used it must be mixed with the mash and is not so nice to handle.

Chicks, if allowed to, will often eat too much and die of indigestion. This may be prevented by plenty of charcoal and sharp grit.—Successful Farming.

---

Incubators will pay for themselves, if you try them.

---

The best way to get early chicks is to hatch them in incubators.

---

It is easier to keep poultry healthy than to try to cure sick birds.

---

Now is a good time to pile up some road dust for the winter.

---

Wet weather is not the best for poultry, and a wet roof is worse.

---

Make the hens come up to the scratch and keep them scratching.

**Male, or A Line** — **Darby and Joan** — **Female, or B Line**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Pen No. 1 Darby and Joan | | | | 1st Year |
| | | Pen No. 2AA Darby to His Best Daughters | Pen No. 2BB Joan to Her Best Son | | | 2nd Year |
| | Pen 3A Son to Mother Pen 2A | Pen 3AA Darby to Best Grand Daughters | Pen 3BB Joan to Her Best Grandson | Pen 3B Cock from 2B to Daughters | | 3rd Year |
| Pen 4A Cock 3A to Daughters | Pen 4AX Uncle to Nieces | Pen 4AA Cockerel from 3BB to Pullets 3AA | Pen 4BB Cockerel from 3AA to Pullets 3BB | Pen 4BX Uncle to Nieces | Pen 4B Cockerel from 2B to Mother Pen | 4th Year |
| Cock to Daughters | Uncle to Nieces | Cockerel from Pen 4AA to Hens 4AX | Pen 4AA Continued | Pen 4BB Continued | Cockerel from Pen 4BB to Hens 4BX | Uncle to Nieces | Mother Pen to Son | 5th Year |

Mrs. Frank Metcalf's Breeders' Chart for Beginners.


**The Cyphers Incubator Pays From the Start**

Begin *right*—whether you are in the chicken business on a large or small scale. Don't "experiment up" to Cyphers quality. Get the best *first*.

The Cyphers means no moisture troubles, no heating troubles; no ventilation troubles. Biggest percentages; healthiest chicks. It's the best by test.

**The World's Standard Hatcher**

Used by more Government Experiment Stations, more State Agricultural Colleges, more well-known Fanciers and Practical Poultrymen than all other makes combined. A hot-air machine—no metal tanks to rust out. Self-regulating; self-ventilating.

Cyphers Incubators and Brooders are guaranteed to you personally. You have 90 days—4 hatches—to prove a Cyphers Incubator. Money back if you want it—after fair trial. 160-page Catalog free. Address Nearest City.

**Cyphers Incubator Co.**
Department 46

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**Special Dry Chick Food**

and watch them grow.

Compare it with other chick foods on the market and see the variety of clean wholesome grains and seeds it contains.

Free samples and descriptive booklet on application to

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**Germain Seed & Plant Co.** Distributing Agents for Southern California.

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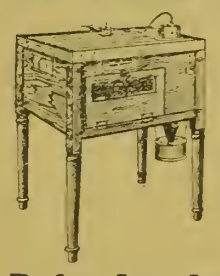

will insure successful hatches every time. No. O Incubator, 100 egg capacity costs less than $12.50. Freight paid to your station.

Send for our catalogue it explains why Defender Incubators are best.

**Defender Incubator Co.**
Dept. D, Livermore, Cal.

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**High Protein Meat Scrap**

Just what the name implies.

**A Meat Scrap High in Protein**

Not tanned nor embalmed and thoroughly digestible.

Manufactured by

**Geo. H. Croley**
Poultry Supplies
631-637 Brannan St. San Francisco. Cal.

Obtain it from your dealer, or order direct.

**GEESE**

***Toulouse*** ***Embden***

Prize winning stock never beaten at any poultry show.

***$1.50 Per Setting***

Fine Toulouse Ganders for sale at $4.00 each.

Send your order at once for the best stock in the west.

**T. B. C. Sielcken**
CALISTOGA, CAL.

**BUG-GO** is the great prune tree spray.
**BUG-GO** is the great apricot tree spray.
**BUG-GO** is sure death to { Moss and all fungi growths. Italian Pear Scale and Black Scale. Brown Apricot and San Jose Scale. Thrips.
**BUG-GO** is a beautiful, creamy oil emulsion, pleasant to handle and a quick killer.
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*Write for Free Sample*

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# TO TREE PLANTERS

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It Will Pay You To Send For It

**Leonard Coates Nursery Co., Inc.**

Morganhill, Santa Clara County, Cal.

# Ruehl-Wheeler Nursery

Office and Sales Yard: 121 W. San Fernando St., San Jose, Cal. Box 826

Fruit and Ornamental Trees.

Nurseries: 90 Acres, Monterey Road, Near Edenvale. 25 Acres, Center Road, South of Tully Road. 16 Acres, East San Jose, Alum Rock Ave.

Send for Free Price List.

# CHICO NURSERY CO., Chico, Cal.

We have just what you want to plant this coming season.

*APPLES, PEACHES, PEARS, PRUNES, CHERRIES and ALMONDS.* Also a good stock of *GRAPE VINES, BERRIES, ORNAMENTAL TREES, SHRUBS* and *ROSES.*

Catalog free. *CHICO NURSERY COMPANY, Chico, California*

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Manufactures

# "ECONOMY" HYDRATED LIME

A High Calcium Lime. 98% Pure.

The best for sprays. Prices right. Write us.

# Farmers, Take Notice

**Get the Most for Your Money by Buying the TOM LEWIS FERTILIZER**

Increases everything that grows in quality and quantity. My fertilizer will actually do the work. It is the poor farmer's friend—cheap and practical. No trouble to use. It produced 6 pounds of grapes to the bunch on R. D. Steven's ranch at Mayhews, California. For catalog and prices write

**THOMAS LEWIS, 1916 Tenth Street, Sacramento, California**

(For 20 Years the Fertilizer Man)

# Who Wants Baby Chicks?

We can supply 2500 chicks per week of the following kinds: Barred Rocks, Rhode Island Reds, White Rocks, Black Minorcas.

The price is $14 per 100, crated ready to ship.

White and Brown Leghorns are $12 per 100 ready to ship. 150-Chick Size Fireless Brooder only $4 if you order some chicks to come in it.

They are very light and chicks will ship safely anywhere in them. 50-Chick Size $2.50. Send for our chick and hatching egg catalog. It's Free.

***Pioneer Hatchery Company***

*112 East Eighth Street, Los Angeles, California*

When writing advertisers, mention Cultivator.

# Queries and Replies

**Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.**

### Borers—Peaches.

What is the trouble with our peach trees? The branches big and little suddenly die at any time of the year. The balance of the tree lives. Can you tell us anything about the Smock and Stump the World peaches, their color and quality, and with what peaches do they ripen?—Chaparral, Riverside.

The sudden dying of the branches may be due to borers and perhaps in most cases this is the case. Some seasons, however, sour sap has caused parts of a tree to die sudenly. It is no doubt caused by some bacterial disease. There is no remedy that we know of. Fortunately it is never very serious.

Smock is a late yellow freestone that comes on just ahead of and sometimes with Salway. Stump the World is a late summer freestone, white flesh with some red at pit. One of the finest table peaches. It is well named.—J. W. M.

### Topping Eucalyptus.

I have 150 eucalyptus trees planted along the roadside 16 feet apart. The trees are two years old and about twelve feet high. It seems to me that the trunks are too slender (some of them being not more than an inch in diameter) to support the tops through the winter storms. I have them supported with small stakes about three feet high, but will either have to trim them back or put in large stakes which would be somewhat expensive. —J. G. M., Sacramento.

We would cut off the tops of these trees to prevent them from being so top heavy. This is usually done to make the trunk more stocky and save the young tree being whipped to death or at least out of shape in the winter. We have seen trees where one-half to two-thirds of the tree has been cut away, leaving the stocky young trunk which next spring sent out a magnificent growth and at the same time made a more shapely tree.

### Walnuts on Oaks.

I note news item regarding walnuts having been grafted on oak trees. Is this true? If so, is any special process or treatment required? A. B. C., Escondido.

This is a hard question to answer. The item referred to was taken from a Northern paper. We imagine this is a new field which will require some little experimentation before anything very definite can be known about it. We will admit being a little skeptical as to its commercial success, if it is a possibility.

### Walnut Varieties.

What is the advantage claimed for the different varieties of grafted walnuts such as the Franquette, etc.?—X

The Franquettes have proven fairly satisfactory in some northern sections where the soft shell varieties which do well in the southern counties would not succeed at all. Where the Eureka, Placentia Perfection, or Santa Barbara softshells and a few of the imported will do at all, the Franquettes would not be worth planting. In sections where frost may come later and injure the early blooms, the Mayettes and Franquettes have proven good bearers and have done very well. The matter of variety to plant may best be determined by noting the kinds planted in your own community. Whatever is doing well there at the present time should be continued.

### Shasta Daisies.

Please give me time of sowing Shasta daisies and length of time from sowing to bloming. Where can I get the seeds, and what is the best method of caring for them?—M. E. S., Otay.

Shasta daisies are usually propagated from rootlets which come from the old stock. In fact, that is the only way to reproduce them and be sure that they come true to name. Seedlings may give some improved varieties, but more probably indifferent ones. If one wishes to experiment seeds may be had we presume from any seedsman, but the rootlets from the old plants can be bought of almost any nurseryman in the state. After setting it is but a few weeks until they begin to bloom. If reset in March or April they begin blooming so quickly that one should keep the buds pinched off for a few weeks in order to get a stocky plant which has not been weakened by over bearing of blossoms. Its requirements are very simple. An occasional hoeing with thorough irrigation is all that is necessary. If one wishes to grow the monster blooms six inches in diameter, then additional care with fertilizing is required. The plant is wonderfully satisfactory and repays any care given to it.

### Cracking Walnut Seed.

Should wild walnut seed be cracked before planting and is it too early to plant now? Is tobacco subject to frost? When should camphor be planted?—Subscriber, Hemet.

Walnut seed are usually buried in damp sand as soon as gathered in the fall and allowed to remain through the winter until spring. Then as they sprout they are taken from the sand and planted in nursery rows.

Tobacco will not stand any degree of frost.

Camphor seed may be planted in January, February and March. Plant in flats, with light covering, then when two inches high, prick off into pots. They may later be planted in the open ground. The seed should be planted while fresh as it soon looses its vitality. A pound of good, fresh seed will give you about 2000 plants.

### Milch Goats Valuable.

I noticed your reply to G. B., Nordhoff on the milk goat and for fear your statements may gain ground I must say a few words for the most valuable little goat. After several years milking many goats, I can go you lots better.

The common Spanish or Angora goat will give from two to three quarts per day and I have had several that would hold this up for six or eight months. I am milking a common Angora goat today that has given two quarts a day for the past eight months. If G. B. will send 15

**POULTRY SHOW DATES.**

**Petaluma, Dec. 8-11, 1909**—H. R. Campbell, Secretary, Petaluma.

**Los Angeles, Jan. 5-11, 1910**—Annual Meeting Poultry Breeders' Association of Southern California at Chutes Park. S. E. Salisbury, Secretary, Monrovia.

**San Diego, Jan. 11-15, 1910**—J. F. Goforth, Secretary, San Diego.

cents to U. S. Department of Agriculture, Washington, he will get the book concerning the milk goat by George Fayette Thompson, M.S.

The milk from goats is very rich with heavy cream and is far ahead of the Jersey cow and if well fed will milk nearly up to kidding. The goat is fast taking the place of the cow for family use.—C. A. Loud, San Diego.

The Bulletin referred to by Mr. Loud Bulletin No. 68 of the Bureau of Animal Industry "Information Concerning the Milch Goat."

(Continued on next Page.)

## Veterinary

Answers in this column by Dr. R. T. Whittlesey, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Kidney Trouble.

My mule's kidneys are affected so that when I work him his urine is the color of blood and almost as thick. He has no fever, eats heartily.—W. S., Newhall.

A first principle in treating any disease is that if it irritates the mule's kidney's and bladder to get him heated up, you must not work him so hard. Give him one-half ounce of turpentine in three ounces of cotton-seed oil three times daily.—R. T. W.

### Lumpy Jaw.

I have a young heifer had a calf about the 15th of September and appears well and healthy, but has a swelling under her lower jaw which started about a month ago. I put some liniment on it which the veterinarian gave me but it did no good.—Subscriber, Gridley.

It may be only a simple abscess or it may be lumpy jaw. It is impossible to say without an examination. If you want to be on the safe side get the following: one pound of potassium iodide in one quart of water. Give one-half ounce of the solution night and morning in bran mash.—R. T. W.

**DR. WHITTLESEY'S VETERINARY REMEDIES.**

These are not ordinary mixtures but are from well tried formulas, used in an extensive practice in Southern California for nearly a quarter of a century. Dr. Whittlesey's Sulphur Arsenical Salve for deep fistulous or ordinary chronic, indolent sores such as, "Poll Evil," "Fistulas," "Quitters," "Thrush," "Scratches," "Warts," "Collar sores" or "Sit-fasts," $1.00 per package postpaid. Printed directions. Dr. Whittlesey's Antiseptic Healing Powder forms a coating over raw surfaces, excludes air, flies and floating germs. Makes a cheap and convenient dressing for the many sores that occur to stock on the ranch. $1 full pound can postpaid.

DR. R. T. WHITTLESEY,
Veterinary Hospital, 714 East Seventh St., Los Angeles, Cal.

### A LITTLE HOME TALK.

"Willie?"

"Yes'm."

"Have you been in swimming?"

"No'm."

"How did your shirt get so wet?"

"I perspirated on it—honest, I did."

"What?"

"Yes'm. That's what done it. I run so fast to get away from where I would be tempted to disobey you that I got all wet with sweat."

"Willie?"

"Yes'm."

"Come here."

"Yes'm."—Judge.


# Money Making Little Liners

In this department we will insert your advertisement under a classified head for 1½ cents per word. No ad accepted for less than 25c. Our classified columns are the clearing house for our many thousand readers.

### TREES.

FOR SALE—1500 EUREKA LEMONS 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. B. WARNER Santa Ana, Cal.

FOR SALE — STRONG OUTDOOR grown rooted cuttings. Send for 1-2-3 cent list. Other plants. Fine lot Blue Gums qt. tins—3 to 4 ft. GEM NURSERY, Los Gatos, Cal.

WRITE TO US FOR SPECIAL PRICES on first-class prune or peach trees, or berry vines. State number wanted. GRIDLEY COLONY NURSERY. Gridley, Cal.

THE GOLDEN RULE NURSERY COMpany of Loomis, Cal., are closing out their nursery business and are offering their entire stock at greatly reduced prices. Write for price list.

ORANGE SEED BED STOCK, EXTRA fine. Also Valencia Orange trees. Prices very reasonable. ROBERT HANSEN, Anaheim, Cal. R. R. No. 4.

BLACK WALNUT TREES FROM FOUR to six feet for planting. Also Tokay grape vines. E. S. MILLER, Elk Grove, Cal.

FOR SALE—2 YEAR OLD EUREKA Lemon trees, balled, $1.00 each. C. D. HUBBARD, San Fernando, Cal.

### HORTICULTURAL PRINTING.

THE KRUCKEBERG PRESS, 123 South Los Angeles St., Los Angeles, Cal., makes a specialty of Horticultural Printing and Engraving. Cuts and illustrations of all standard, economic and ornamental plants on hand and subject to the use of patrons without cost. Samples and estimates cheerfully furnished. Remember we design, write, engrave, bind and print; in brief, do the "whole thing," at no additional expense to the customer. Correspondence a pleasure; a personal visit a joy. Headquarters for catalogues and quadri-color printing.

### FERTILIZERS.

SULPHATE OF POTASH
$60.00 per ton.

For a short time we will sell Sulphate of Potash at $60.00 per ton.

This is the right time to apply it for maturing the crop and the new growth of wood.

This price won't last. Get your supply now from the Armour agent in your district.

THE ARMOUR FERTILIZER WORKS,
Los Angeles and Colton.

### WANTED.

WANTED—EGGS FOR HATCHING OF White Orpington, also Golden or Silver Sebright Bantams. MRS. E. REID, R.F.D. 2, Box 25, Pomona, Cal.

WANTED—HARDSHELL ALMONDS for seed purposes. Address, FANCHER CREEK NURSERIES, Fresno, Cal.

### RARE PLANTS.

WILD PLANT IMPROVEMENT GARdens, Santa Ana, California, NEWTON B. PIERCE, Proprietor. Rare choice ornamentals and new fruits from all lands.

12 IMPROVED SHASTA DAISIES $1.00 postpaid. Get list of field-grown roses. BALLOU'S NURSERY, Pasadena, Cal.

### SITUATIONS WANTED.

WANTED—SUPERINTENDENCY OF orchard, by young man, married, fourteen years practical experience in Santa Clara valley. Understands cultivation, irrigation, spraying, drying, etc. E. C. MERRILL, Campbell, Cal.

### HONEY.

SAGE HONEY, GUARANTEED ABSOlutely pure. One 5 gal. can, crated, f.o.b., $4.25, two 5 gal. cans, crated, f.o.b., $8.00. HENRY E. HORN. Riverside, Cal.

### RHUBARB.

CHOICE CRIMSON WINTER RHUbarb and Conover Asparagus one-year plants, from selected seed, for sale in large orders at a little over cost of digging expenses. Write for particulars. W. B. CURRIER, Sea Bright (Suburb of Santa Cruz,) Cal.

### HOGS.

BERKSHIRE PIGS—PERFECT TYPE, popular American strains. A few choice boars and sows. Herd Boar, Kingsclere Duke 111812. G. B. REEVES, Mountain View, Cal.

### MISCELLANEOUS.

THE ANCHOR EGG SEPARATOR works perfectly; no well regulated hotel or household can afford to be without it." So says Delmonico's Chef. Send ten cents or ten names of persons keeping poultry, and we will send one postpaid. Or for 25 names we will also send postpaid "THE POULTRY MANUAL" by those high authorities, F. L. Sewell and Ida R. Tilson, profusely illustrated. WEST COAST MILL CO., 705-709 So. Griffin Ave., Los Angeles, Cal.

A LABOR SAVER FOR WOMEN. Send 10 cents for three weeks trial. Electric Laundry Compound, washes clothes without rubbing. Saves time, labor, and clothes. No lime, lye or acids. Eight washings 25 cents. Money back if not satisfied. ELECTRIC COMPOUND CO., 823 S. Spring St., Los Angeles, Cal.

FOR SALE—ABOUT 1500 TONS OF good thoroughly rotted manure, subject to prior sale; near Los Angeles; prompt delivery. Give your railroad location. WM. HOUSTON BROWN, guaranteed complete fertilizers, fertilizing materials, manures, 1333 Girard St., Los Angeles, Cal. Sunset Main 7682; Home 52998.

FOR SALE—AN OPEN TOP SURREY at half price, cost $150, practically new. Call or address H. A. Perkins, 1732 Monterey Road, South Pasadena, Cal.

FERNS—10,000 BOSTON FERNS FROM beds, ready for potting into 4, 5, and 6 inch pots, 5c, 10c, and 15c each, runners $2.50 per 100. CALIFORNIA FERN NURSERY, Box 188, R. F. D. 1, Los Angeles, Cal.

AN OLD ESTABLISHED NURSERY, deciduous and other trees; estimated saleable stock, $4000; orders now in; on account of other business must sell. J. H. WILLS, Real Estate, East Auburn, Cal.

FOR SALE,—AS FERTILIZER ABOUT 5 cars fine planing mill chips or shavings. For keeping soil loosened, better than manure; equal fertilizing value. Will make humus equivalent to leaf mold. Must move quickly. Wm. H. BROWN, fertilizers guaranteed to work, manures, 1333 Girard St., Los Angeles, Cal. Main 7682, Home 52998.

### POULTRY.

DAY-OLD CHICKS FROM MY PURE bred, carefully selected stock of S. C. White Leghorns, $1.00 per 10, $9.00 per 100. Eggs for hatching $1.00 per 15, $5.00 per 100. J. R. HEINRICH POULTRY YARDS, Arroyo Grande, Cal.

FOR SALE—FIVE MAMMOTH Bronze Turkey Toms nine months old, from W. W. Howard's famous strain. None finer. Magnificent large birds, beautifully marked. A. C. WISEGARVER, San Fernando, Cal.

FOR SALE—CHINESE PHEASANTS $5.00 a pair. Chinese Silkies, pullets $1.50, cockerels, $2.50. MRS. R. S. SPAULDING, 533 Walnut St., Woodland, Cal.

FOR SALE—PLANS, SPECIFICATIONS and photograph of the "20th Century Coop" $1.00. Mrs. A. J. BADGER, Oxnard, Cal.

FOR SALE—BLACK MINORCA COCKerels, Wheelers Strain, $2.50 each. Incubator chicks $12 per 100, eggs $1.50 per 15, $6.00 per 100. Mrs. A. F. FRESE, Box 456, Dixon, Cal.

ELEANORE MINORCA FARM—ROSE Comb Black Minorcas. Eggs in season. Club catalogue free. Route 1, Los Angeles, Cal.

PIT GAMES—SOUTHERN AND GRADE Japs. O. L. CRANE, Route 3, Santa Rosa, Cal.

### CATTLE.

SPECIAL — FOR SALE, HOLSTEIN bulls, two old enough for service and a number of yearlings. Also a few calves that are small enough to crate Julianas, De Kols and all the strains for which this herd has been famous are represented. The only cows to hold World Records raised in the state were bred on this ranch. Same blood still represented largely in the herd MINNEWAWA STOCK FARM, Fresno Cal.

REGISTERED JERSEYS — YOUNG bulls—Golden Lad strain, heavy milking dams. G. B. REEVES, Mountain View, Cal.

### DOGS.

COLLIE PUPPIES FASHIONABLY bred, a beautiful spayed bitch, two handsome males sable and white. G. B. REEVES, Mountain View, Cal.

### HOMES FOR CHILDREN.

HAVE YOU A BOY? IF NOT, LET us send you one. We want country homes for boys of all ages. Arrangements to suit. CHILDRENS' HOME SOCIETY, 2414 Griffith Ave., Los Angeles, Cal.

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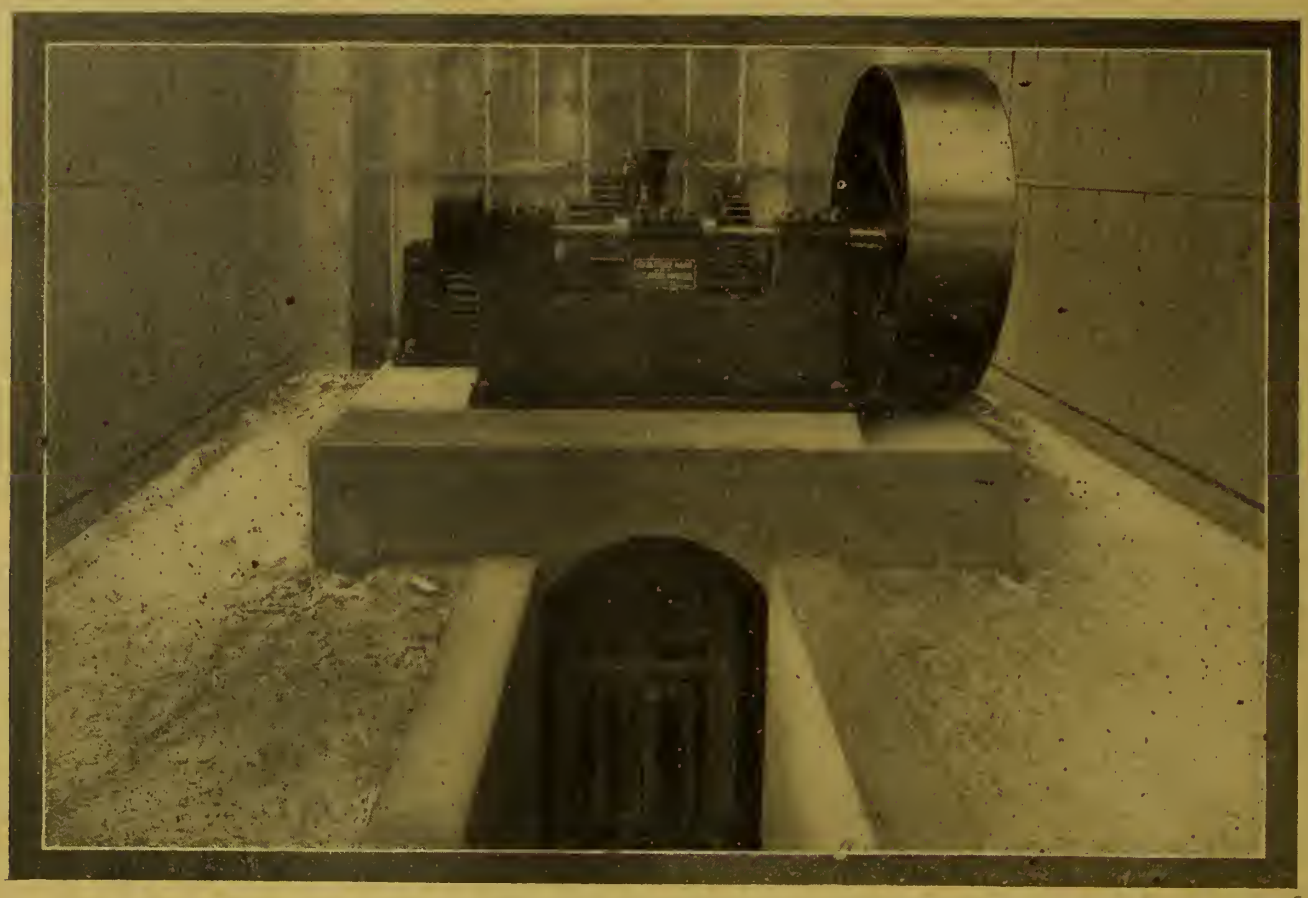

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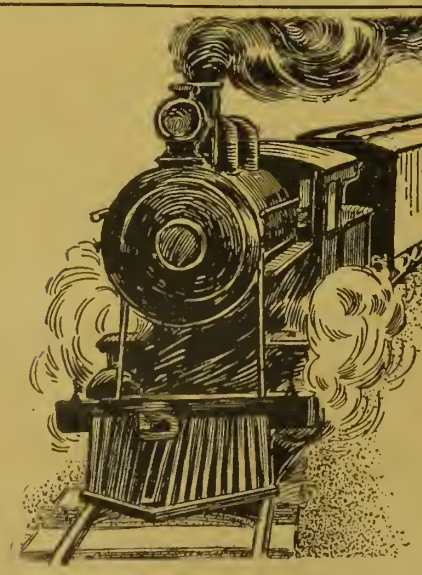


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### Grapes Decay.

I have a small vineyard of Tokay, Black Morocco and Cornichon grapes near Los Angeles. This is the third year from planting of rooted vines, and the crop was heavy and looked well until the first or middle of August, but did not mature satisfactorily. After the May heat the Tokays and Black Moroccos appeared to be sunburnt. Later as they ripened they rotted badly, the skin getting soft and slipping, then pulp decaying. They were amply sulphured several times, but as the rot does not show till coloring has commenced, the trouble can hardly be mildew. Vines show a rank luxuriant growth.—H. H. A., Riverside.

Your description of the manner of decay of your Tokay and Black Morocco grapes tallies exactly with their action after having passed through a spell of wet weather. Heavy dews, fog or rain will produce the effect. If they are that way with continuous dry weather, the problem is beyond me. For future help in this trouble, call on some one from the Whittier Pathological Station. For literature on viticulture, address Director Agricultural Experiment Station, Berkeley, Cal.—J. W. M.

### Walnuts in Interior Valleys.

Is the climate of El Cajon Valley, San Diego county, suitable for growing almonds and walnuts. It gets very hot in summer, temperature standing from 100 to 120 degrees in the shade. Would light frosts in winter harm? Soil is decomposed granite, very deep.—W. W., El Cajon.

You cannot raise walnuts that will pass out of the second or third class in such a climate as you describe. If they do not all sunburn on one side, they will surely have dark kernels which will spoil them for the trade. Almonds will do well in such a climate if they receive sufficient water and late frosts are not usual. Any frost which will show at all will kill the young fruit. I once lost a crop of almonds after they were from one-half inch to one inch long by a frost that had no effect on oranges just out of bloom, or the succulent shoots on the tips of the succulent branches. There was not one almond left.—J. W. M.

### Pruning Grapes.

When is the earliest period at which grape vine pruning may be safely commenced without injury to the vines? Would the middle of November be too early in the season? We usually start in the middle of December, but before all are pruned and prunings disposed of, the work of cultivaton is often retarded, so if pruning could be safely undertaken earlier, more time could be devoted to cultivation with better results than now. Is iron considered a good fertilizer for grapes to give them color and tone? If so, how can it be best applied, in what form and in what quantity?—Subscriber, Pasadena.

Do not prune your vines till the leaves are ready to drop or are fully ripe. The leaves elaborate the sap and furnish vigor and strength for the next crop of fruit. Any time after the leaves are ripe will do to prune. Late pruning has a tendency to make late blooming. The more the vines bleed, the later will the rank spring growth begin.

Iron is an important element in soils for some varieties of grapes, but we doubt if it would pay to apply it as a fertilizer. Sulphate of iron is the form in which it should be applied. Red soils are the best for grapes which require iron to give color, in the form of red oxide which is more available than any other form except the sulphate.—J. W. M.

# Household Department

## JUST LOOKIN' 'ROUND A BIT.

How do I like California? Really, I
can't say—
I'm only lookin' 'round a bit, I didn't
come to stay.
I've got a farm in Illinois, right on
the eastern line,
I raised the mortgage just last fall,
and every inch is mine.
I've struggled hard for twenty years
with weeds and blight and
snow;
Wife thinks I've done my share, I
ought to go a little slow.
I had to sweat all summer there,
then feed stock half the year,
There's lot's of liars 'round who say
its always pleasant here;
No weekly thunder storms? Indeed!
Don't let my wife know that,
She'd never start for Illinois, she'd
set her foot down flat.
And will I buy a place? I'm not a-
calculatin' to;
But I'd just like to know, you see, if
all them yarns is true;
About the winter pasture, with no
stock shed in the fields,
About the winter garden truck, and
how alfalfa yields.
What! strawberries, fresh on Christ-
mas and barley grown' high
Yes, its plain this land produces ac-
cordin's as you try.
These lemon and camellia trees—
they're quite unusual sghts,
And fuchias and geraniums live out-
doors by themselves?
My wife she keeps them fancy things
at home on window shelves.
I'm sort of stuck on olives; they're
medicine and meat,
I never heretofore have had enough
of them to eat.
The trees don't need no care?
Don't let Maria know—
Where I can take it easy is where
she wants to go.
Perhaps, although, I ought to plan to
please
And gain this sunset comfort in the
sunset of my life,
I'd like a vine and fig tree, and
roses running wild;
Them Easter lillies there has made
Maria crazy as a child;
Just now I've got a homesick spell
that Doctor Frost will cure,
You bet, next fall, we'll settle down
in California sure.

—Lillian H. Shuay.

## THE HAPPY SECRET

ONCE upon a time there lived a beautiful princess who became so unhappy in winter that as soon as the cold season came she shut herself up in her own rooms in the palace, and there stayed until summer came round again.

Her father was greatly distressed. In vain he tried by splendid balls and ice-carnivals to draw the princess back into court life. She would only sit in her own apartments and think how wretched every one must be.

Now, as she should be queen on her father's death, and he was growing an old man, the ministers were alarmed, and advised the king to get her married, as a husband might manage her better.

But the princess declared that she should marry only a man who could make the land pleasant from year's beginning to year's end.

The ministers were in despair; but the king proclaimed the decision of the princess; and as she was famed for her beauty, and was heir-apparent to a land both large and wealthy, many sultors came forward with plans.

These plans, however, were only either to take the princess away to the sultors' own warmer kingdoms, or to build in her own land magnificent palaces, enclosing gardens and forests, which should be safe from the cold of winter from year to year; and to such plans the princess would not even listen.

"I must see my own lands, and all its people, pleasant and happy," she declared.

Now, at the edge of this kingdom there lived a youth, named Ulf, who was much befriended by the fairies because of his goodness and industry; and to him ,as he tended his master's flocks, the fairy queen came and said:

"You must find the great gift for the princes."

"But what is it?" asked Ulf.

"When you find it you shall know," replied the fairy queen. "I think it is very near to the princess already. Go quickly to the city."

Upon this Ulf begged his master to give him a holiday, and set out as fast as he could through the snow.

While he was trudging through a great forest a little bird fell at his feet, half frozen by the cold.

Picking it up, he placed it in his bosom to warm it, and presently it said:

"Now I shall help you. Go down the narrow path until you reach a hermit's cottage. He who lives in that cottage has the Great Gift."

Thus speaking, the little bird flew away; and, knowing that it was a fairy bird, Ulf faithfully followed the path; and ere long he came to the cottage.

"Near by the hermit was scattering food for the birds.

"Good morning, my son," he said. "You have come for the Great Gift"; and ,saying this, he placed a small crystal heart in Ulf's hand.

"It has often been lost by neglect," he went on. "It has been chipped and scratched by carelessness; but it has still virtue enough in it to make the kingdom a lovely and a happy place to whoever carries it."

Joyfully accepting the Great Gift, Ulf thanked the giver, and set out again toward the city of the king's palace.

Soon, while he traveled, the youth became aware of a new, delightful power within him. He could see under the snow to where the roots of all plants were kept saft and warm. He saw into the hearts of trees and shrubs, and felt that they were gathering strength, and dreaming of summer whilst they slept under the snow. He could see that beneath the ice the little fishes swam, warm and merry, at the bottom of the water. And the icy air was no longer hateful to him, because he knew it swept into nooks and crannies and killed all evil things. Every snoflwake was a fairy on some good mission.

Coming out from the forest, and passing through the villages, Ulf knew in some magical fashion that those who had been idle in the abundance of summer were now constrained to work; that the wasteful were forced to be careful; and that the kind-hearted were more than ever moved to deny themselves that they might help others.

So the same cold season which killed evil insects and purified the air, killed also selfishness, and made


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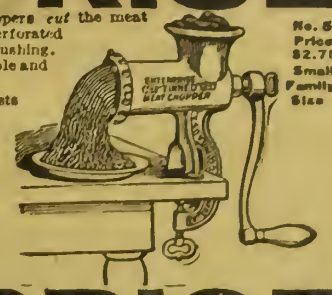

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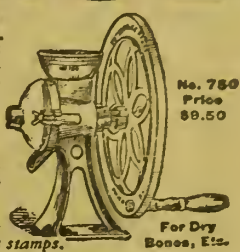

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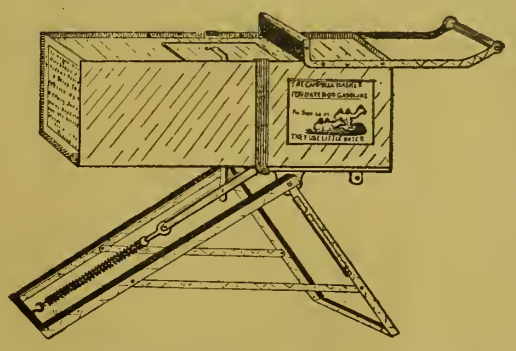

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hearts brighter, warmer, and purer than ever, and well content to lose their pleasures for a season, as the trees and plants lost their leaves.

Therefore, it seemed to Ulf that this was the very pleasantest land in all the world.

And because of his thoughts his face was so bright and noble that when he reached the palace the servants took him at once to their mistress, the princess, for they knew that he had some happy secret for her.

And when he had entered the presence of the princess and had given to her the crystal heart, she rose up from her couch with a face as bright as an angel's, and said:

"Now I know that to have a pure heart, clear as crystal, is to see as the angels see, and to see even a little as the angels see is to know that the land is always beautiful, because it is what the angels are making for God."

So Ulf and the princess, being of one heart, were married, and they lived happy ever after, because they knew the Happy Secret.—Spokesman Review.

### BLACK BEAN SOUP

Black bean soup is a dish which may be described as a full meal, because it contains all the elements necessary for a balanced ration. When this soup, made out of one pint of beans, is served to six people with an allowance of one-half an egg to each person, it provides one-sixth of all the proteins needed for the day. This is about all one would wish to take at luncheon or supper for the dinner with its meat course can be depended upon to supply most of the proteins needed. Black bean soup, therefore, should be considered not an introductory dish, but the chief part of the luncheon or supper.

Whatever question there may be about the usefulness of a fireless cooker for preparing some dishes—and the discussion runs high as to whether it is worth while to bother with it for some preparations—there can be no doubt as to its value for preparing a dish like bean soup, which requires long, slow cooking and which ought, in the interest of the housekeeper, to be prepared in some place where it will be in no danger of burning.

In preparing this soup, soak a pint of beans in water over night or an equal length of time by day. Pour off the water and pour over the beans two quarts of fresh water. Use soft water if possible for the lime and magnesia salts of hard water combine with some of the most valuable nutrients in the beans to form insoluble substances which digest with great difficulty. Cook a small onion with a little butter or drippings. Add this with two stalks of celery to the beans. Bring to the boiling point, put into the fireless cooker and leave for from eight to ten hours. Thicken with one and one-half tablespoonfuls of flour, cooked in one and one-half tablespoonfuls of butter and season with salt, cayenne pepper and a very little mustard—not more than one-fourth teaspoonful. Put into a tureen three hard-cooked eggs cut into slices and one lemon cut into very thin slices and pour the soup over them. Serve with pulled bread. Take pains to have the dessert of such a character that the family will not leave the table with the feeling that they have been served with a liquid meal.—La Follette's.

### DIVISIONS AND SUB-DIVISIONS OF COMMERCIAL CUTS OF BEEF.

Comparatively few of the American house wives are familiar with the various portions of the beef carcass. With the majority the demand of the butcher is for "a good roast," "a good beef steak," or "a boiling piece or pot roast." They take what the butcher gives them and pay the price demanded with little or no knowledge as to the comparative value of the cut purchased. All are familiar with the fact that the loin and ribs are the best part of the carcass and it is perhaps for this reason that fully 80 per cent of the demand is for cuts from the loin or ribs. This part of the carcass constitutes only about 25 per cent of the

whole, and thus the great bulk of the demand is for the smallest part of the carcass. This is the real reason why cuts from the loin and ribs cost from two to five times more than cuts from any other part of the beef. With the supply of cattle decreasing and the demand for beef increasing, the time has come when the American house wife must educate herself regarding this subject and be able to make her purchases to fit her pocketbook, and at the same time secure good edible meat containing as much, or more, nutriment than the more expensive cuts. The following simple rules should be remembered:

1. Remember first that it is in all in the cooking and preparation. A piece of beef from a cut that will cost four to ten cents per pound can be made as attractive, appetizing and nutritious as a cut from the loin that will cost from 25 to 35 cents per pound.

2. Insist upon seeing the carcass from which the meat is to be cut. See that it carries the stamp "U. S. Inspected and Passed," which is a guarantee from the government that the meat is healthy.

3. A prime piece of meat will not only carry an outside covering of fat, but all through the lean meat will be small specks of fat, giving it a marbled appearance. With a little experience anyone can tell good meat from poor.

4. In cooking beef remember that the sap or juice of the beef is one of the most important parts of the meat. It should be so cooked as to retain these juices. This is best done, in case of a steak, by searing on the outside. In broiling a steak, place close to the fire, at first turning frequently until the outside is seared brown. Then so place it that it can cook slowly until lone. Remember that rare meat does not mean raw meat. Meat cooked has a bright pink appearance. If not cooked it will have a bluish purple color. When beef is rare it is cooked in its own sap.

5. Beef should not be fried in grease. For convenience it may be cooked upon a hot frying pan or skillet. In this case use no grease and turn the steak over two or three times to sear the outside and retain the sap. Never cook beef in boiling grease.

6. In roasting beef have the oven very hot before putting it in. This will sear the outside and seal in the sap. The roast should be turned a time or two at the beginning and then lower the temperature of the oven slightly and let it roast until done to the point desired.

7. Pot roast should be parboiled and finished with very little water, and kept covered. A good plan is to first boil tender, then take off the water and finish by roasting in the oven.

8. Do not have the bone cut out of a roast. It cooks better and is sweeter with the bone left in. The bone also helps to hold the sap in the meat.

9. Disabuse your mind of the idea that it is not fashionable to place the cheaper cuts of beef on your table. The meat bills of the highest salaried chefs of the wealthiest families are much smaller than those of the average American cook.

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Let us be of good cheer, remembering that the misfortunes hardest to bear are those which never come.—Lowell.

## HOW TO MAKE AND FRY A DOUGHNUT.

Not long ago I heard a woman say she dreaded to make doughnuts because she was never sure of getting them good, but that her family liked them so well that she had to provide them every week. I think a good many feel as she does—I know I did until my good angel, in the form of my next neighbor, gave me her rule and told me just how to proceed.

First, here is the rule—a good one; but there is more in the frying than there is in the making: Take two large eggs, one and one-half cups granulated sugar, two cups sweet milk, four teaspoonfuls of sweet cream or two of melted butter, one rounded teaspoonful of soda dissolved in three teaspoonfuls of sweet milk, two teaspoonfuls of cream of tartar, one-fourth teaspoonful of ginger, one-third of a nutmeg, grated, a pinch of salt,, and flour to make a dough as soft as can be handled without sticking. Sometimes, since learning how to follow the rule with good results, I use sour milk instead of sweet, with half the amount of cream of tartar or less, according to the acidity of the milk.

Heat the frying fat, adding a lump of sweet beef tallow to two quarts of lard. It should be as "smoking hot" as it can be and not smoke. Roll the dough about one-fourth of an inch thick, and use a cutter three inches in diameter, with an inner cutter of one and one-half inches. This gives a generous sized doughnut, and also cuts little round pancakes of sufficient size to fry, thus saving the rekneading of many diminutive circles, which makes needless work and overstiffens the dough. see that the edges of your cutter are sharp and true and that the seams are smoothly welded, else the fried cakes will be "wobbly" and ragged.

Many advocate turning cakes several times while frying. Turn them but once is my neighbor's rule, which I have adopted with satisfaction. We think if both sides of a doughnut are prematurely crusted over it is prevented from rising so light as it otherwise would. Fry the little cakes by themselves, saving time by lifting them. from the kettle with a skimmer. The children are sure to beg for these. Drain the sizzling hot doughnuts side ways as you spear them from the fat, thrusting your fork through the hole in the center. If they are to be dusted with sugar shake them about in it as soon as taken from the kettle. Avoid smearing your frying fork with sugar, however, else it will result in the formation of black excrescences, pleasant neither to taste nor sight, on the next lot of doughnuts fried.—Farm World.

## THE VIRTUES OF BUTTERMILK.

The virtues of buttermilk are claimed to be manifold. Among other advantages, it posseses a large share of the acid which destroys the incrustations which form on the arteries, cartilages and valves of the heart, and it is asserted that a constant use of it would free the system from troubles which inevitably cause death between the 75th and 100th years of man's life. It may be used freely and to good advantage by every one. Another point in its favor: Churning the first process of digestion, is gone through with, making it one of the easiest and quickest of all things to digest. It makes gastric juice and contains properties which readily assimilate with the digestive organs. Prevents indigestion, foul stomach, headaches, aids action of healthy bowels and saves doctor bills.

---

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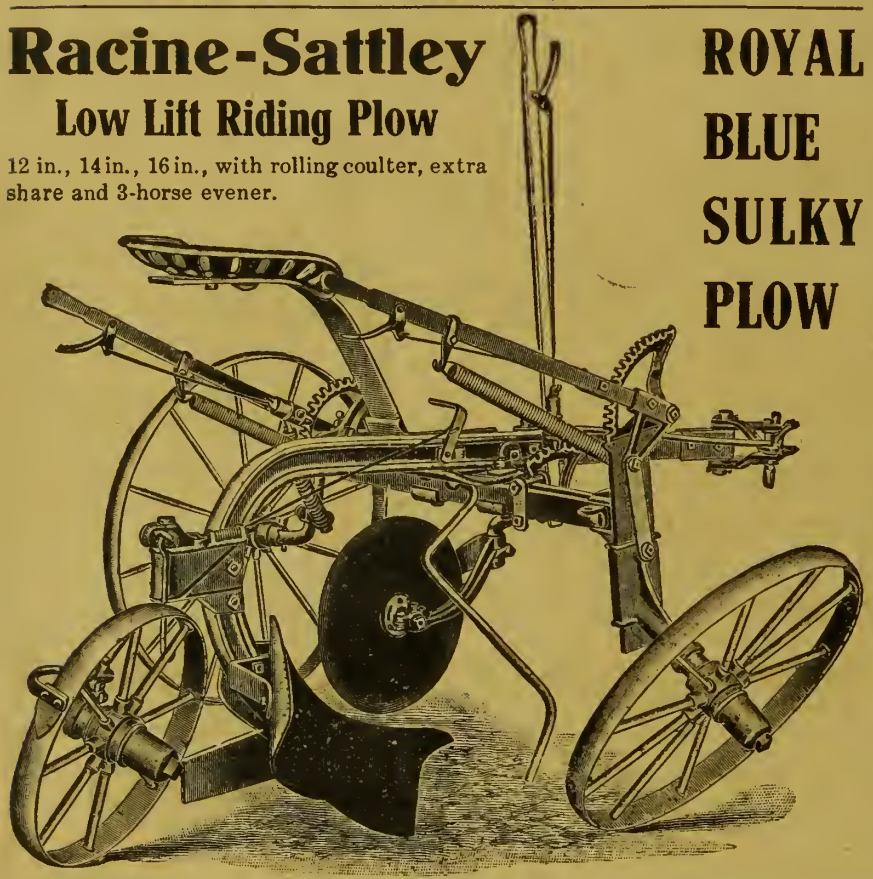

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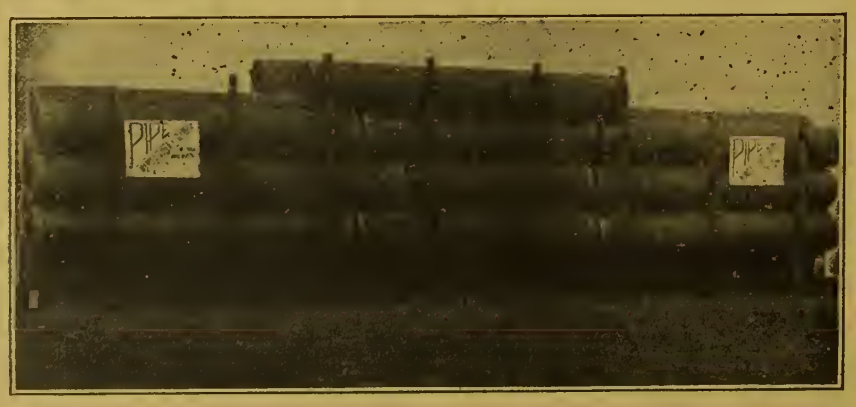

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# General Agriculture

### CLASSIFICATION OF PUBLIC LANDS.

THE necessity for classifying the public lands is not a recent discovery. The earliest land legislation in this country both contemplated differences in the quality and character of the public lands and planned for descriptions based on field examination. Yet even the honest administration of the land laws has ever been subject to criticism arising from the fact that no adequate provision was made for land classification.

A period of national awakening to the worth of the public domain followed the close of the civil war and another epoch of realization by the nation of the true source of its wealth and prosperity has just opened, while both the legislative and executive branches of the Federal Government are awake to the fact that exact knowledge is essential to the proper utilization of our country's great resource of land. The earlier propaganda bore fruit in the creation of a scientific bureau among whose functions was the classification of the public land, but this specific duty was subordinated to the more general task of determining the natural resources of the public domain. The duty of classifying the remaining unentered public lands is now definitely accepted by the United States Geological Survey and the opportunity earlier neglected has for several years been vigorously improved. The Survey is heartily co-operating with the General Land Office to the end that the best disposition of the land may be secured, and it should be noted that no small part of the data utilized in this work represents the fruitage of the Survey's earlier general investigations.

Utilization is the keynote of the present public land policy and by utilization I mean not that kind of local development that is promoted by the "land skinner," but rather a development whose plan weighs national needs and calculates future demands and whose accomplishment will serve our country's development in the next century as well as in the present decade. Utilization is opposed to both non-use and waste.

A notable example of land classification in aid of proposed legislation is afforded by the acts of March and October, 1888, wherein Congress directed that an irrigation survey should be made by the Geological Survey and that the reservoir sites and irrigable lands designated as a result should be reserved pending further legislation. The legislation of 1888 was itself the logical outcome of Major Powell's 1879 report on the arid lands and his subsequent work as Director of the Geological Survey and the law that eventually resulted from the work thus authorized in 1888 was the Reclamation Act of 1902, through the operation of which the West is coming into its own as the garden of the nation.

Hydrographic and topographic surveys which are now in progress under instructions of the Secretary of the Interior have as their purpose the collection of information that may be presented to Congress in aid of legislation looking toward the best utilization of the water powers on the public domain. Reports on the mineral or non-mineral character of coal, oil, and phosphate lands of which the Survey has made actual field examinations are now being transmitted to the General Land Office. Another line of activity is the segregation of non-irrigable lands under the terms of the 'enlarged homestead act" of the present year. The existence of survey data whereby within the few months since the passage of this law the Secretary of the Interior has been able to designate 162 million acres is in itself a forceful argument for an adequate land classification.

The classification and valuation of coal land is a special phase of public land work to which the Geological Survey is giving increased attention. The geologic investigations of the last three field seasons have not only furnished a knowledge of the quantity and quality of the coal on the public domain but have rendered possible the present policy of obtaining coal prices for coal lands. The General Land Office now depends on the Geological Survey to furnish detailed valuations for every 40-acre tract of coal land that is placed on the market. In the two and a half months following the adoption of the revised scheme of valuation the reports to the General Land Office released to agricultural entry approximately two and a half million acres in Colorado, Wyoming and Montana and placed selling prices on nearly 400,000 acres of coal land with an aggregate valuation of over $15,000,000. The price of Government coal land is now determined on the basis of estimated tonnage, the unit rate varying with the quality of the coal from ½ cent to 3 cents a ton for coal deposits within 15 miles of a railroad. These prices average less than one tenth the usual royalty paid in the West. Yet this conservative valuation will more than double the average price of public coal lands. In exceptional cases the price based on tonnage represents a fifteen-fold increase over the old minimum price. It is conceded that this policy of basing the price on the quantity and quality of the article sold will not encourage purchase by speculators, but I maintain that the Government valuation will not impede the disposition of the coal deposits for purposes of utilization. The real development of the West will be promoted, not retarded. The increased valuation of the millions of acres of public coal land must result in increased contributions to the Reclamation Fund and greater possibilities for local utilization of the agricultural lands through irrigation.

A principle that is winning increased recognition in land legislation is that of relative worth. The present coal land law expresses this principle by giving gold, silver and copper deposits priority over the coal and the coal in turn preference over agricultural values. These distinctions necessitate land classification based on adequate field examination. Wherever the different values can be separated that separation by appropriate legislation is at once the eas

test and best solution of the problem, and the first step in this direction was taken in March of this year in the passage of the Mondell Act whereby the homeseeker may secure all for which he makes entry—all that he swears he is getting—while the coal beneath his tillable lands is reserved to the nation for future disposal.

The ideal land classification is that based on field examination, scientific and detailed enough to include every natural resource; the ideal land legislation is that which fully recognizes the principle of relative worth; and the ideal land administration is that which will assure the reservation or the disposition of the land for its highest use.—Geo. Otis Smith at Irrigation Congress.

### FARMING FOR WOMEN.

Almost a million women in the United States are either farmers or farm laborers. Thanks to the growing popularity of the homestead in the far West and to a belated appreciation all over the country of agriculture as a field for woman's industry this number is rapidly increasing. The United States, however, has not gone so far in this respect as England, where in the dairy sections women have entire control of the herds; or France, where nearly 3,000,000 women are engaged in farm work; or most of the countries of continental Europe, where the finer breeds of cattle are mainly the result of woman's efforts.

The 1900 census showed 456,405 women in the United States working as farm laborers and 307,706 women farmers. The 1910 census will undoubtedly show this number materially increased, while if the plans of philanthropic economists in Massachusetts are successfully carried out that state alone will add 100,000 to the aggregate. The Woman's Massachusetts Homestead Association is planning to provide suburban homes for the 100,000 dependent spinsters and widows which that state acknowledges possessing, the plan being to have the commonwealth buy tracts of land wherever available, divide them into acre lots and then through a commission supply the women with a share of land. If the state is not willing to furnish the land free, the association asks that it take a mortgage on the land bought by philanthropists, develop it, build cheap and comfortable homes on it and furnish the necessary implements to cultivate the soil. By this means, it is contended thousands of women and children will be taken out of the large cities, congested slum districts will be released and the women and those dependent on them will be placed where they can be profitably employed under sanitary conditions.

All over the country women are making a decided success of farming. Some are employers of labor, simply managing their properties, while others are farm laborers, doing their share of whatever work is to be done. Notable among the latter class is a New Hampshire woman who wears men's overalls and jumpers for convenience and can do a man's work at practically everything except holding the plow. In regard to adopting men's apparel she says:

I discovered the greater convenience of men's clothes quite by accident and at once I decided to wear them when doing any kind of outside work on my place. I was storing hay in the barn with skirts on one day last summer and found I could not avoid treading on them and getting thrown. I hit upon the idea of wearing overalls and had no more trouble after that in handling a load of hay. I have continued to wear men's clothes since on the farm. People laugh at me, I know, for this and for driving into town with a load of farm produce or wood, but I don't care. My work is honorable and I believe in dressing the way most convenient for me.

A Missouri woman who is making a great success of farming brings up another point. She is an employer of labor rather than a laborer and has learned that the ordinry farmhand does not care very much about being bossed by a woman, even if she is a skilled farmer. She says:

"Above everything else, women must be considerate of their employes. Men don't like to be bossed by a woman and I don't blame them, but I try to employ help that needs no boss and try to have them realize that much is depending on them, consequently we never have any trouble and my men try very hard to do things for my interest. They help me and I help them. When I can do anything to help them out of a close place I always do it. I have never spoken a cross word to any employe."

Many problems confront the woman farmer, but it is to the everlasting credit of the sex that she is solving each and every one as it arises. Her tact and good, common sense are factors which are helping toward her success, while her ability to make a dollar go about five times as far as a man can make it go is adding to her financial profit. Records show that women farmers are quicker than men farmers to adopt new machinery and new inventions. As a rule they are planting pedigreed seed and reaping good harvests.

### SMUT TREATMENT.

"We take the cleanest, best seed obtainable and put it through a good fanning mill once or twice till all of the 'smut balls' are blown out and all of the small grains sifted out, when it is ready for the vitriol water, which is prepared as follows: Fill a 50-gallon barrel two-thirds full of cold water. Next dissolve 15 pounds of blue vitriol in a wooden bucket by pouring boiling water on it and stirring it for 10 or 15 minutes. Pour the water off in the barrel and fill the bucket again. This is repeated until the vitriol is all dissolved. If the barrel is not full, finish filling with cold water and stir slightly to thoroughly mix the solution. We then pour six bushels of the clean wheat on the floor, and sprinkle three gallons of the vitriol over it, using a small can with holes in the bottom for a sprinkler. While the water is being applied, the wheat is shoveled continually from side to side, simply turning the pile over till it is thoroughly wet and thoroughly mixed, when it is sacked and allowed to dry for 24 hours. It is then ready for the drill. The floor where the vitrioling is done, the sacks and the drill should be thoroughly cleaned and sealed before using."

### SPARE THE ROD.

The Fulton Sun gives this as the result of interviewing thirty business men and thirty loafers: "The thirty business men had all been flogged freely by their parents when they were boys, while out of the thirty loafers twenty-seven had been 'Mamma's darling,' and the other three had been raised by their grandmothers."

# A $100 Typewriter for 17 Cents a Day!

Please read the headline over again. Then its tremendous significance will dawn upon you.

An Oliver Typewriter—the standard visible writer—the $100 machine—the most highly perfected typewriter on the market—yours for 17 cents a day!

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The typewriter that is equipped with scores of such conveniences as "The Balance Shift"—"The Ruling Device"—"The Double Release"—"The Locomotive Base"—"The Automatic Spacer"—"The Automatic Tabulator"—"The Disappearing Indicator"—"The Adjustable Paper Fingers"—"The Scientific Condensed Keyboard."

## Yours for 17 Cents a Day!

We announced this new sales plan recently, just to feel the pulse of the people. Simply a small cash payment—then 17 cents a day. That is the plan in a nutshell.

The result has been such a deluge of applications for machines that we are simply astounded.

The demand comes from people of all classes, all ages, all occupations.

The majority of inquiries has come from people of known financial standing who were attracted by the novelty of the proposition. An impressive demonstration of the immense popularity of the Oliver Typewriter.

A startling confirmation of our belief that the Era of Universal Typewriting is at hand.

## A Quarter of a Million People are Making Money With

The OLIVER Typewriter

### The Standard Visible Writer

The Oliver Typewriter is a money-maker, right from the word "go!". So easy to run that beginners soon get in the "expert" class. Earn as you learn. Let the machine pay the 17 cents a day—and all above that is yours.

Wherever you are, there's work to be done and money to be made by using the Oliver. The business world is calling for Oliver operators. There are not enough to supply the demand. Their salaries are considerably above those of many classes of workers.

**"An Oliver Typewriter in Every Home!"**

That is our battle cry today. We have made the Oliver supreme in usefulness and absolutely indispensable in business. Now comes the conquest of the home.

The simplicity and strength of the Oliver fit it for family use. It is becoming an important factor in the home training of young people. An educator as well as a money maker.

Our new selling plan puts the Oliver on the threshold of every home in America. Will you close the door of your home or office on this remarkable Oliver opportunity?

Write for further details of our easy offer and a free copy of the new Oliver catalog. Address

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## Southern Pacific

COULSON'S POULTRY FOODS
MADE IN PETALUMA
GUARANTEED
SOLD EVERYWHERE

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Dec. 1, 1909.

### Butter.

Extras have advanced during the week to 75 cents per roll with firm market.

Produce Exchange wholesale quotations are as folows with actual selling prices to the trade 2½ advance on Extras.

Creamery per roll .....67@75
Eastern Creamery per roll .....67½
Cooking .....26
Ladies .....26@27

### Cheese.

Northern fresh .....19@19½
Domestic Swiss .....23
Imported Swiss .....32

### Eggs and Poultry.

Eggs stand at last week's quotation on all grades with a demand which keeps the market active.

Paying price f. o. b. L. A. is:
Local candled .....51@53
Case count buying price .....48
Eastern fresh .....35
Storage .....27@30

Dealers pay for live poultry f. o. b. L. A.
Hens per pound .....18@19
Roosters .....9@18
Roasters 3 lbs. and up .....18@19
Spring chickens .....18@20
Turkeys .....20@24
Geese .....10@12
Ducks .....10@12
Squabs .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles on all stock.
Hogs from 175 to 200 pounds.....7¾
Prime steers .....4½
Heifers .....3½@4¼
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.75@4.00
Wethers .....4.50@5.00

### Potatoes.

Extra demand is causing firmness in the potato market.

Wholesale prices are:
Yellow Sweets per ctl .....1.35@1.60
Burbank local .....85@1.00
Highlands .....1.00@1.25
Salinas .....1.65@1.75
Oregon .....1.40@1.50

### Onions.

Wholesale quotations:
Yellow Danvers .....1.25@1.35
Australian Browns per sack.....1.50
Garlic .....7@8

### Vegetables.

Wholesale quotations:
Artichokes locals .....1.10@1.25
Beets, sk .....80
Beans, string .....4@5
Brussels sprouts per lb. .....8@9
Bell peppers .....8
Cabbage, per sack .....85@1.00
Celery per doz .....50@60
Cucumbers per box .....75@1.00
Cauliflower per doz .....40@60
Carrots per sk .....80
Egg plant per lb .....3@5
Green onions per doz bunches.....25
Hubbard squash .....1@1¼
Lettuce choice per crate ....1.25@1.50
Leeks .....35
Oyster plant .....35@40
Summer Squash, lug.....75
Okra per lb. .....8@10
Peas per lb .....5@6
Parsley, per doz. bunches.....20@25
Pumpkins per lb. .....1½
Parsnips .....40
Radishes per doz. .....20@25
Rhubarb, crimson winter.....1.00
Spinach per doz .....17½
Turnips sk .....80
Tomatoes lugs .....60@70

### Citrus Fruits.

Navels .....2.75@3.00
Valencias .....3.50
Grapefruit .....2.00@3.50
Lemons .....2.25@3.50
Limes, halves .....1.50@2.00

### Fresh Fruits.

Wholesale prices on the market are:
Bellefleurs .....1.35@1.50
Winesaps .....2.75@3.00
Pearmains Red .....1.20@1.75
Jonathans .....3.00
Smith Cider .....1.50
Casabas per crate .....1.70
Cantaloupes Jumbos.....2.50@3.00
Christmas melons .....2.00
Figs .....1.25@1.50
Grapes lug box .....90@1.25
Persimmons lb. .....8@10
Peaches per box .....1.50
Bartletts .....$2.50@3.00
Quinces per bx. .....1.25
Raspberries .....10
Blackberries .....9
Strawberries .....8@10
Watermelons per lb. .....1½

### Dried Fruits.

Wholesale prices are:

Apricots .....12@15
Evap apples fy per lb .....10@11
Figs box .....1.25
Peaches .....7@8
Pears .....11@12
Plums pitted .....12½
Nectarines .....9@10
Prunes .....4½@10

### Beans Dried.

Wholesale quotations:
Limas per ctl .....4.40@4.50
Pink No. 1 .....4.25@4.35
Black eyes .....4.50
Lady Washington .....4.25@4.50
Small white .....540@5.50
Garvanzas .....4.50.
Lentils .....7.00

### Nuts.

The following wainut prices are not the wholesale, but car lot quotations established by the wainut association.
No. 1 soft shell .....11½
No. 1 hard shell .....11
No. 2 soft shell .....7½
Almonds IXL per lb. .....15@17
Pecans polished .....12½@16
Peanuts Eastern .....7
Peanuts, Cal .....5@5½

### Honey.

Wholesale quotations:
Extracted water white .....7@7½
Extracted light amber .....6@6½
Comb Water White .....18
Comb. white .....15
Beeswax .....25

### Hay.

Buying prices f. o. b. cars L. A. are:
New Barley hay .....10.00@14.50
Alfalfa, local .....12.50@14.00
Alfalfa Imperial .....11.00@13.00
Northern .....12.00@13.50
Wheat hay .....11.00@13.50
Tame oat .....11.00@15.50

### Grain.

Wholesale selling price f. o. b., Los Angeles:
Wheat new per ctl .....2.05@2.10
Kaffir corn .....1.85
Corn .....1.75
Egyptian corn .....1.80
White oats .....1.80
Seed Rye .....2.10
Popcorn .....3.75

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn .....1.80
Cracked wheat .....2.10
Shorts .....1.85
Bran .....1.60
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....1.85
Feed meal .....1.85
Cracked wheat .....2.10
Rolled Barley .....1.60

## San Francisco Markets

SAN FRANCISCO, Nov. 30, 1909.

### Butter.

Butter advanced on Saturday to .36½ on Extras and is now firm at the advance.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:
California extras per lb. .....36½
California Firsts .....31
California seconds .....29
Storage extras .....30
Ladles .....25½

### Cheese.

California flats new .....15@18
Cal. Young America fy new ...17@19
Young American Oregon fy .....18½

### Eggs and Poultry.

Eggs are scarce and an advance was made on Monday. They have fluctuated from 51 to 58 during the week.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:
Fresh ranch extras .....55
Firsts .....50
Seconds and thirds .....28@35
Storage extras .....30
Hens per doz .....5.00@9.00
Roosters per doz .....4.00@8.00
Fryers per doz .....5.50@6.00
Turkeys .....23@24
Geese per pair .....1.50@2.50
Ducks .....4.00@9.00
Turkeys .....21@24
Pigeons young .....1.00@3.50

### Live Stock.

San Francisco prices gross weight:
Steers .....3½@4½
Cows and heifers .....2@3½
Hogs .....4½@7¾
Calves per lb .....4@5½
Milk lambs .....6¼
Wethers No. 1 .....5@5¼
Ewes No. 1 .....4.25@4.50

### Potatoes.

Wholesale market quotations:
River White crates .....65@75
River Whites, extras .....90@1.00
Salinas .....1.15@1.30
Oregons .....75@1.00
Sweet crates .....1.00@1.25

### Vegetables.

Wholesale quotations:
Bell peppers per box .....50@75
Cucumbers per doz. .....75@1.25
Celery, doz .....60@90
Chili peppers per lb. .....6@7
Egg plant per box .....75@1.00
Green peas per lb. .....7@8
Mushrooms per lb. .....10@.20
Okra .....75@90
Rhubarb per box for bay....1.25@1.50
String beans .....6@7
Summer squash .....75@1.00
Tomatoes bay .....75@1.00
Wax beans .....6@7
Lima beans .....7@8
Garlic .....4½@5

### Onions.

Yellow onions .....85@1.00

### Citrus Fruits.

New Navels .....1.75@2.75
Tangerines .....75@1.50
Grapefruit .....1.00@3.00
Lemons .....1.25@4.50
Limes .....4.50@5.00

### Fresh Fruits.

Bellflowers .....1.00@1.25
Newtowns .....1.25@1.75
Figs blk box .....50@75
Isabellas .....1.00@1.25
Other varieties .....50@65
Peaches per lug box .....50@1.00
Pears, Winter Nells .....75@1.50
Pears, cooking, box .....75@1.00
Persimmons .....75@1.25
Pomegranates .....65@1.00
Quinces .....50@1.00
Huckleberries per lb. .....8@10
Strawberries, chest .....12.00

### Dried Fruits.

Santa Clara prunes .....2⅜@3
1 cent premium for larger sizes.
Apricots per lb. Royal .....10@12
Peaches—Choice ..5½; Fancy.....7½
Apples evap .....8@9
Pears .....6@9¼
Figs .....3¼@5
Nectarines .....5@6
Plums .....7@8

### Raisins.

RAISINS—1909 crop, f. o. b.: Fancy Seeded, 16-oz. cartons, 5@5¼c; do, 12-oz, 4½c; do. choice, 16-oz., 4½@4¾c; choice, 12-oz., 4c; 50-lb. bxs. Loose Muscatels, Standard, 4-crown, 4@4¼c; 3-crown, 3¼@3½c; 2-crown, 2½@3c; Seedless Thampson, unbleached, 3c; do, bleached, 7@7½c; Sultanas, unbleached, 2¼c; do, bleached, 4@4½c; Muscatels, unbleached, 2¼c; Dried Grapes, nominal; London Layers, clusters, 2-crown, 85@90c; 3-crown, 90@$1; 4-crown, $1.30@1.50; 5-crown, $1.75@2; 6-crown, $2@2.50.

### Nuts.

Walnuts soft shell No. 1 .....13@13½
Walnuts S. S. No. 2 .....8@8½
Walnuts, hard shell .....13
Almonds '09 N. P. U .....13
Almonds '09 nonp .....14½
Almonds I X L .....14
Pecans .....15@17
Chestnuts .....14@15
Peanuts .....5@6

### Beans Dried.

Limas .....4.20@4.25
Pink .....3.70@3.75
Black eyes .....4.00@4.25
Small white .....4.85@4.95
Large white .....3.50@3.60
Red Kidneys .....5.00@5.50
Garvanzas .....3.00@3.25
Bayo .....5.15@5.25
Horse beans .....2.10@2.25
Cranberry .....4.75

### Hops.

Hops 1909 crop .....19@23
Hops 1908 crop .....15@18
Old .....10@13

### Honey.

White comb .....14@15
Light Amber .....10@12
Extracted W W .....7½
Extracted light amber .....6½@7
Beeswax per lb. .....25@29

### Hay.

Scott, Magner and Miller say:—Arrivals of hay for the past week have been 3183 tons, as against 2806 tons for the preceding week. Cars are now becoming more plentiful, and we are informed by the Railroad Co. that there will be no further shortage from now on.

The demand for hay for the past week has been very light, receipts being double what there has been any demand for. Naturally, prices have weakened, and there has been a decided decline on all grades and qualities of hay during the week just ended.

The alfalfa market is unchanged; a few cars consigned. Interior hay being sold at our lowest quotation.

Straw is in light supply and shows no improvement in price.

This week's quotations are:
Choice wheat hay.....17.50@18.50
No. 1 wheat or wheat & oat 15.50@16.50
No. 2 Wheat or wheat and oat .....13.00@14.00
Choice tame oat .....15.00@16.50
Other tame oats .....12.00@14.00
New Crop wild .....9.00@13.00
Stock hay .....7.00@8.00
Alfalfa .....9.00@12.00
Straw .....55@65

### Grain.

Wheat No. 1 .....1.90@1.97½
Barley No. 1 .....1.40@1.47½
Oats white .....1.60@1.65
Oats gray .....1.60@1.65
Rye new crop .....1.85@2.00
Cal sm round corn .....1.75@1.80
Alfalfa seed .....16@18
Mustard brown .....3¾@4½
Millet .....2¼@3
Flaxseed .....4
Broom corn seed per ton .....23.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton ....37.00@38.00
Cracked corn per ton ....38.00@39.00
Ground barley per ton ....31.00@32.00
Rolled oats per ton .....33.50@35.00
Oil cake per ton .....38.50@40.00
Cocoanut cake per ton .....25.00
Middlings .....36.00@37.50
Mixed feed per ton .....28.00@33.00
Shorts .....31.50@33.00

## Citrus Market

LOS ANGELES, Dec. 1, 1909.

The market is somewhat better than reported last week but still suffering somewhat from the effect of green fruit. It seems plain that a mistake has been made in forwarding some shipments altogether too early. This fruit has gone but little into the auction markets, but scattered over the country in the general markets.

Lemons are exceptionally strong in tone and the few coming from the Mediterranean are not sufficient to depress the market at all. All fruit going forward is of exceptionally fine quality.

**Shipments.**

Shipments from Southern California points to date since November 1st; 427 cars of citrus fruits of which 194 were oranges and 233 were lemons. To same date last season; 420 cars of which 88 were oranges and 332 lemons.

From Central and Northern California total shipments of oranges for the season since November 1st are 1022 cars.

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NEW YORK, Nov. 26.—Four cars Valencias and two cars lemons sold. Market strong and higher on Valencias, fairly steady on lemons. Weather clear and mild.

VALENCIAS—
Our Beauty Sd Sierra M L C.....2.85
Old Mission Fy Chapman .....6.75
Old Mission Ch Chapman .....5.50
Golden Eagle Sd Chapman .....4.20
Purity Xc, Tustin P Co.....3.55
Old Oak Ch Tustin P Co.....3.15
Premium Or Benchley F Co.....3.70
Superior Ch Benchley F Co.....3.75

LEMONS—Clown Fy Spar F Co., $4.25; Lotengo Fy Sparr F Co., $4; Del Oro Ch $3.20; Protection Fy Ohio Lemon Co., $4.35.

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PHILADELPHIA, Nov. 26.—One car lemons sold, also 6500 boxes Florida oranges and grapefruit. Florida oranges $1.50 to $2.30; Grapefruit, $2.30 to $3.30.

LEMONS—Watchumna, T C C Ex. Lemoncove, $4.55.

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CINCINNATI, Nov. 26.—Market is weak, Cool. Six cars Floridas sold. Brights, $1.65 to $2; Russets, $1.70 to $2.

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CLEVELAND, Nov. 26.—One car navels and one car lemons sold. The market is very strong on lemons. Cool.

LEMONS—
Watchumna T C C Ex Lemoncove..3.90
Just as Good T C C Ex Lemoncove.4.40
Lemoncove T C C Ex Lemoncove ..4.55

NAVELS—Zebra T C C Ex Lindsay, $1.95

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ST. LOUIS, Nov. 26.—Market firm on good fruit, weak on small sizes Florida oranges. Cool. Five cars sold.

LEMONS—
Sunside Santa Paula C F Ex.....3.30
Oriole VC Ex Fillmore .....3.90
Airship VC Ex Fillmore .....4.15

NAVELS—Pocahontas T C C Ex Zante, $2.70.

Florida oranges, $1.50 to $2.10.

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BOSTON, Nov. 26.—One car sold.

Market unchanged. Raining.

LEMONS—

Whittier S T Ex Whittier .....4.80
Pico S T Ex .....4.15

PITTSBURG, Nov. 26.—No sale of California citrus fruit held here today.

CINCINNATI, Nov 29.—Cool, Market declining, lower, depressed on oranges, steady on lemons. Twelve cars Florida oranges and one car California lemons sold. Florida Brights, $1.60@1.80; russets, $1.55@1.70.

Lemons—Pet, S. A. Ex., Arab, $4.50; Greyhound, $4.20; Duck, $3.35.

PHILADELPHIA Nov 29.—Two cars of lemons sold, also 11,000 boxes Florida oranges and grapefruit. Oranges averaged $2.40; grapefruit, $2.10@3.55.

Lemons—Pioneer, Pioneer F C., $4.25; Standard, $3.80; Excelsior, C. C. U., $2.90; El Toro, 2.55.

BOSTON, Nov. 29.—Six cars sold. Raining. Market unchanged.

VALENCIAS—

Red Print, Riv Ex Pachappa.....1.85
Scepter, S S Orange.....3.90
Searchlight, S. S., Orange .....2.05
Purity Tustin P. Co .....3.30
Green Print, Riv. Ex., Pachappa...1.30
Planet, S. S., Orange .....2.75
Sunset, S. S. Orange .....1.75
Old Oak Tustin P. Co. .....2.40

LEMONS—

Quail, O. K. Ex. .....5.10
Pet, S. A. Ex., .....4.85
Coyote, O. K. Ex., .....3.95
Greyhound, SA Ex .....3.20

PITTSBURG, Nov. 29.—Two cars sold. Market steady. Seven cars Floridas and two cars Louisiana oranges sold. Market unchanged. Cool. Florida oranges averaged $1.65; Louisiana, $1.85.

LEMONS—

Naralimo, Sparr F Co. .....4.00
Senorita, Sparr F Co.....3.00
Circus, Sparr F Co.....3.85
Just as Good, T. C. Ex., Lemon cove.4.10

ST. LOUIS, Nov 29.—Raining. Market weak on account of the other varieties of fruit selling. Nine cars Florida oranges and one car Louisiana oranges sold. Floridas, $1.45@2.50; Louisiana, car part sold, $2.25; balance withdrawn.

Navels—Zebra, T. C. C. Ex., Lindsay, $2.25; valencias, Red skin, Rialto Orange Co., $1.10.

Lemons—Homer, Q. C., Corona, $3.65; Camel, $3.55; Family, $3.15.

## THE MANLY MAN.

"What shall the young man be like? My first qualification for him is manliness. Even the girls who go into raptures over womanhood, hate feminine men. He must be a man in every sense. This means that he must have led a man's life. The pity is that there are young men who want certain girls to love them, who have never taken their places in the world's battle as men.

"The young men who have only known a boy's life are not fit to marry. They need experience and testing; they need the maturity, whatever their years, that will make them safe and good husbands. This means also that they must be unpampered and unpampering. Young men whose parents have foolishly waited on them are unfit to marry, because they will never grant in practice the equality of husband and wife which the marriage contract implies. However pleasant it may be for a doll, or poodle dog, no woman wants to be made the home pet. There are men who subtly show their so-called superiority by never letting the wife go out of sight, who think that their presence is all the good woman desires.

"It is required that he who would be a good husband must be good in other relations. He must be a good son, a good brother; in his industrial relations he must be an honest and good worker. There is no such thing to me as departmental ethics. The young man you would not trust in business, with whom you would not trust your money, you dare not trust at your hearth.

## CROP VALUES OF CALIFORNIA.

Investigations that have been made into the yields of various crops in California by The California Promotion Committee give insight into the vast importance of those industries to which little consideration is generally given. According to the calculations of The Committee the total industrial output of the State for the year 1908 amounted to $1,005,000,000. Of this vast total agriculture played a very important part, its production amounting to more than $400,000,000. This ouput is just double that of three years ago.

Fifteen years ago wheat was about the only grain grown, and at that time it was the mainstay of agriculture. The average annual production of wheat then was valued at about $40,000,000, with other grains comparatively without computative value. In 1908 wheat value had fallen to about $19,000,000 while barley had increased to $26,841,394, raised on land valued at more than $50,000,000. Rye, which increases annually in output, was valued at $228,000, making a total output value of these two grains of more than $27,000,000, which was more than the combined values of all other cereal products of the State.

Hops, also, which is a growing industry, makes a heavy output on an invested capital of about $7,000,000.

More than half of the grape vines growing in the United States are in California, with an annual output value of more than $25,000,000 and for the production of which there is an invested capital of more than one hundred million dollars.

## ONE THOUSAND SUCCESSFUL MEN.

I have on my desk a list of 1000 successful men of this nation. By "successful" I do not mean mere money-makers, but men who have given us new conceptions of steam, electricity, art, etc. These are the men who influence our moral as well as physical lives. They construct for better things.

How these men started in work is interesting. Their first foothold in work is a fine study.

Three hundred started as farmers' sons.

Two hundred started as messenger boys.

Two hundred were newsboys.

One hundred were printers' apprentices.

One hundred were apprenticed in manufactories.

Fifty began at the bottom of railway work.

Fifty—only 50—had wealthy parents to give them a start.—Juvenile Court Record.

## SELF-PRESERVATION.

Mr. Brown and his family were standing in front of the lion cage.

"John," said Mrs. Brown, "if those animals were to escape, whom would you save first, me or the children?"

"Me," answered John without hesitation.—Everybody's Magazine.

## CASE FOR A DESPERATE REMEDY

The Proud Mother—This boy do grow more like 'is father every day.

The Nenghbor—Do 'e, poor dear? And 'ave you tried everything?

# Business Notes

### GOOD TOOLS.

Next to the proper understanding of the tree or vine the principal requirement in shaping it for bearing its greatest load is proper pruning tools. It is true that a good workman can work with poor tools but it is also true that far better and more economical work can be done with tools that are sharp and adapted to their use.

Every fruit grower will appreciate the advantages of a pruning shear that has a double cutting edge, as nearly all the pruning shears heretofore on the market have had only one cutting edge and the other edge, being dull, would bruise and peel the bark from the limb and injure it so it would not heal up smoothly; but we are told the pruning shears manufactured by Rhodes Mfg. Co., Grand Rapids, Mich., whose ad appears in this issue, have this double cutting edge which cuts from both sides of the limb, does not bruise the bark and leaves a clean smooth cut which heals quickly.

This company prepays express charges to all parts of the United States. Their little folder gives full particulars of the different types of shears, which will be interesting reading for every fruit grower.

### PRACTICAL EDUCATION

A general education is desirable; a polite education a luxury; but a practical, every-day, money earning business education is almost a necessity in these days when business principles are supreme in the great work of life. Regardless of the occupation you expect your children to follow, you should see that each one of them has a practical money-earning education. They should know how to transact business carefully and systematically; and how to keep books giving an accurate record of these transactions; they should know how to arrange and compose convincing business letters.

The San Francisco Business College, 908 Market street, San Francisco, is one of the best schools in America in which to secure this education. It is considered along practical lines by men of business experience. It is located in the center of business activity where its students and faculty may come into closest touch with business men and business methods. It is equipped with office furniture of the best pattern.

### TO BE HAD FOR ASKING.

The Sixth Annual Catalogue of the Coulson Poultry & Stock Food Company has been issued and it should prove most valuable to anyone endeavoring to make a profit from the poultry business. Of course the principal feature of the catalogue is the description of the Coulson foods, but condition powders, meat, sea-shells, lice killers and disinfectants together with various remedies make a valuable feature of the forty page booklet. Besides there are a number of pages given to hints and suggestions on poultry raising. If the Cultivator is mentioned a postal card will secure it and would advise poultry raisers to write for it at once.

The December Century is a magazine of promise and fulfilment—promise of notable artistic and literary features in the first paper of "The Holy Land" series by Robert Hichens and Jules Guerin, in the beginning of Helena Modjeska's Memoirs, and in the second instalment of May Sinclair's "The Creators: A Comedy"—in color reproductions of Guerin's marvelous paintings of "The Temple of Bacchus, Baalbec," and "The Columns of the Sun, Baalbec," and of two notable paintings by American artists, Mrs. J. Francis Murphy's "Eleanor" and Ernest L. Blumenschein's portrait of Mr. and Mrs. Ellis Parker Butler and child.

We have been informed that the post office of the Oregon Nursery Company at Orenco Oregon, has been duly installed and that all remittances by post office money order should be made on the Orenco Post Office. Any of our readers desiring to address this company should bear this in mind.


CREAMERY SUPPLIES

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers

PASTEURIZERS
MILKING MACHINES

Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. Weber Co.

225-227 East Sixth Street

LOS ANGELES . . . . . CALIFORNIA

Pure Bred Dairy Sires

Now is the season to purchase a Purebred Sire. We have a few fine young Holsteins of serviceable age, at reasonable prices.

Also a few young heifers.

Full information furnished upon application.

Oakwood Stock Farm Co

909 Jackson St., San Francisco

F. J. Schley, Manager



Golden State Liniment

Use for all cases of Bog Spavin and Sprain. Blood Spavin and Stifle. Bone Spavin and Ringbone Curb and Distemper. Splint and Thoroughpin. We guarantee a cure in most every case. Write to-day.

C.T. Raglin, Westminster, Cal


### SAME, BUT DIFFERENT.

Most lawyers take a keen delight in trying to confuse medical experts in the witness box in murder trials, and often they get paid back in their own coin. A case is recalled where the lawyer, after exercising all his tangling tactics without effect, looked quizzically at the doctor who was testifying and said:

"You will admit that doctors sometimes make mistakes, won't you?"

"Oh, yes, the same as lawyers," was the cool reply.

"And doctors' mistakes are buried six feet under ground," was the lawyer's triumphant reply.

"Yes," he replied, "and the lawyers' mistakes often swing in the air."—Philadelphia Ledger.

### UNPREJUDICED.

Mike McGinnis was being examined for jury duty in a murder trial.

"Mr. McGinnis," asked the judge, "have you formed or expressed an opinion as to the guilt or innocence of the prisoner at the bar?"

"No sir," replied Mike.

'Have you any conscientious scruples against capital punishment?"

"Not in this case, your honor," Mike replied.—Success.

### DANGER.

Tommy—Pop, what is meant by the mother tongue?

Tommy's Pop—Sh-h-, my boy! Don't get her started.—Philadelphia Record

"Would you," he asked, "care to live to be a hundred years old?"

"Not if anybody knew it,' she replied.

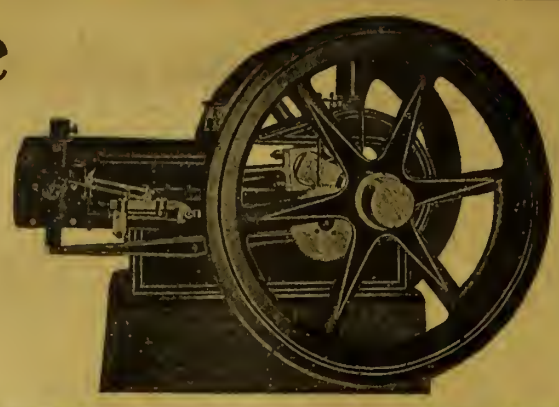
# The Western Engine

Will keep right on { Pumping / Pumping / Pumping

YEAR IN AND YEAR OUT.

Using least fuel
Requiring fewest repairs
Lifting most water

**WRITE FOR CATALOGUE**



# Western Gas Engine Company

Builders of Gas and Distillate Engines and Hoists.
Engineers and Constructors of Power Plants of every size and for every purpose.
Sole manufacturers of the Nix-Frost Crude Oil Gas Producer. (Patented). "The Cheapest Power on Earth."

**Factory and Main Office:**
**Los Angeles, California**

Northern Branch:
San Francisco, California

# The Smooth Running Pomona Deep Well Pump

**RELIABILITY**

Has passed through another most successful season's run, this being the fifth since starting.

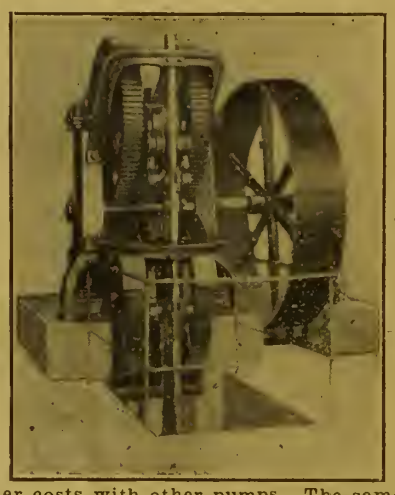
There is no experiment in buying a POMONA PUMP. All the parts have been tried out and fully perfected. They will do the work we know and do it well.

We have records of plants that have made three seasons' run without one cent for repairs of any kind.

**ECONOMY**

May be driven by a steam engine, gas engine or electric motor, and in any case will give you the cheapest water and pay dividends on your stock.

Any Water Company going into the Irrigation business will run no chances in buying the POMONA PUMP. They are built heavy and strong. All the wearing parts are Bronze Bushed or Babbitted and will last a lifetime with the smallest outlay for repairs.



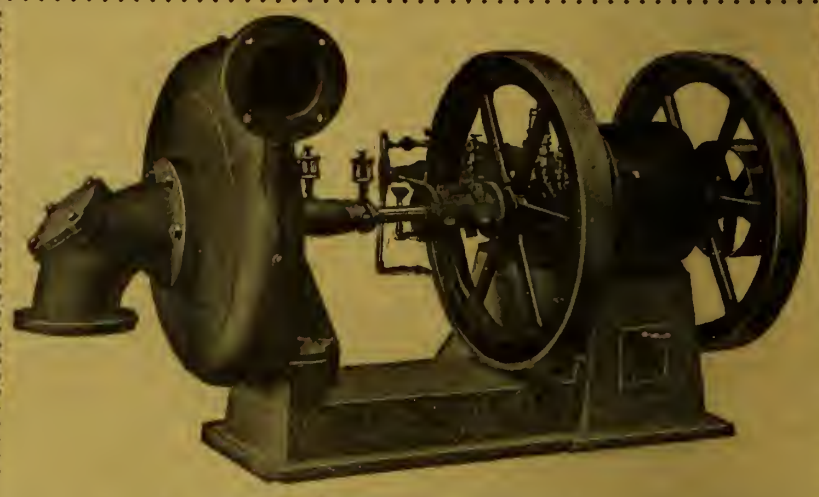
We can refer you to customers who are operating their POMONA PUMPS for less than one-half cent per inch per hour on 200 feet lift. This is less than half what their water costs with other pumps. The same make engine being used in both cases.

Send for illustrated catalogue to—

## POMONA MANUFACTURING CO.

**POMONA, CALIFORNIA**

**Branch at Porterville, California**



# BYRON JACKSON IRON WORKS

CENTRIFUGAL PUMP DIRECT, CONNECTED TO GASOLINE ENGINE. WRITE FOR BULLETIN 32.

**SAN FRANCISCO** 351-355 Market Street
**LOS ANGELES** 212 N. Los Angeles St.
**SPOKANE, WASH.**
**SEATTLE, WASH.**

**THE BEST IN THE WORLD; HAS NO EQUAL**

## The Original R.I. Knapp Side-Hill Plow

Orchard and Vineyard Plow received first premium at State Fair.

If you cannot get our plow send us the name of your dealer and we will see that you are supplied. Has given entire satisfaction for over thirty years. Equally as good for valley as hill sides. We manufacture five sizes—from one-horse orchard and vineyard plow, to the strongest grading plow.

**SAN JOSE, CALIFORNIA** **H. G. KNAPP & SON**

Tell us where you saw this advertisement.

# Not too Heavy
# Not too Light
# But Just Right

Send for Bulletin No. 12.

## COMMERCIAL ENGINE CO.

**951-955 No. Main St., Los Angeles, Cal.**

From photograph showing amount of

## Ten-Inch Pipe

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

## "K T" Moulds

An equal amount can not be made with any other tools in the same period of time. Write for "Brown Book" and price list.

**THE KELLAR-THOMASON MFG. CO., Covina, Cal**

## More Water! Less Power!
## Longer Life! Less Money!

The American Pump has come to stay because every man that is using one is boosting for it. Get our prices and our guarantee before placing orders for irrigating plants. Send us your name and we will send you some interesting catalogs.

**HENSHAW, BULKLEY & CO.**
**262-264 South Los Angeles St., Los Angeles Cal.**

# BOSTROM'S $15.00 FARM LEVEL

***With Magnifing Glasses in the Telescope***

enables you to read Target at a distance of over 400 yards, therefore the problem of a FARM LEVEL with TELESCOPE at moderate cost has at last been solved. Voluntary letters from every State in the Union show the complete satisfaction it gives for all kinds of **DRAINAGE WORK, IRRIGATION, DITCHING, TERRACING** and every sort of farm work requiring a Level. GUARANTEED to be absolutely SIMPLE, ACCURATE, DURABLE and dependable in every respect.

***PALACE HARDWARE COMPANY***
Coast Agents
***581 Market Street - San Francisco***
Write for Booklet

**Complete outfit** with full instructions, shipped anywhere C. O. D. **$15.00** and express charges. **Subject to Examination.**

# Second Hand Irrigating Plants

Pipe, Pumps, Steam and Gasoline Engines. We have the largest A. I. stock of second hand machinery on this coast, and at the right prices. Tell us what you want and we will give you our best figures. Mention this paper.

## Western Machinery Company

**230 Main Street, San Francisco, Cal**

# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles December 9, 1909 San Francisco


## Arlington Egg Ranch, Riverside, California

W. S. Willis, Proprietor

BROODER HOUSES.

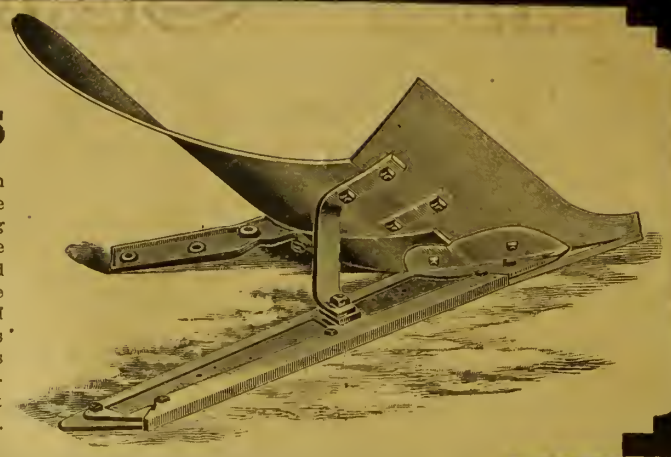
COLONY HOUSES.

HALF-WAY PULLET HOUSES.

# EVERYTHING FOR THE RANCHER.

## Syracuse Chilled Plows

Mr. Rancher, look at the illustration in this advertisement of the way the bottom of a Syracuse Steel Walking Plow is constructed. Then if you are interested write for 80-page illustrated catalogue of Syracuse plows, catalogue No. 29. We will promptly forward catalogue on application. These plows are for sale by the leading dealers throughout the country. If your dealer does not carry them write us direct and we will name you delivered price.



QUALITY ARNOTT GUARANTEED

**ARNOTT & CO. INC. 112-118 S° LOS ANGELES ST., LOS ANGELES, CALIF.**

QUALITY ARNOTT GUARANTEED

# Plant Morse's Sweet Peas Now

Our New Catalog Mailed Free

## C. C. MORSE & CO.

Seeds - Plants - Trees

41 Jackson Street San Francisco, California

The **International Auto Buggy** will carry you the farthest and the longest for the least money.

The **International Auto Buggy** is not the lowest priced auto but it is the cheapest in the end.

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**Stockton and Los Angeles**

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Tarpaulins
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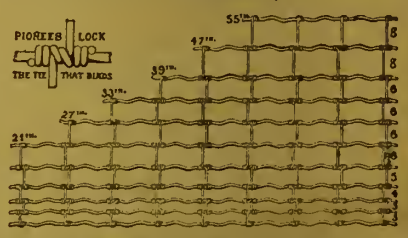
**Kokomo** Hog Field Poultry **Fence**




The Standard of all makes. Square and Diamond Mesh Fences for all purposes. Made of heavy, non-rust, self-regulating steel wires. Absolutely hog tight and stock proof. Write us for catalog and prices.

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**DON'T BUY GASOLINE ENGINES** UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE ENGINE MFG. CO., 470 West 15th St., Chicago. THIS IS OUR FIFTY SIXTH YEAR.


The Hawaiian Islands shipped to San Francisco since the first of January of this year 163,866 tons of sugar.


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**953-7 West Seventh Street**
**Los Angeles, California**

This is a high-grade, finely equipped Commercial College, in the midst of beautiful, healthful, homelike surroundings. Magnificent College home of its own, ideally located. Thorough courses. Large Faculty of specialists. Many business firms prefer to take into their employ strong young men who were raised on the farm.
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**An Improved Freestone Peach** The best for canning, drying and market.

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GUARANTEED
SOLD EVERYWHERE



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1015 10TH ST., SACRAMENTO, CAL.
One Year $75. Send for Circular.
Employment possibilities very strong in Sacramento

# California Cultivator

Vol. XXXIII—No. 24 Los Angeles, California, Thursday, December 9, 1909 Subscription $1 a Year

# Poultry Industry Great Commercial Factor in California

## Valuable Artisles Written by Many People in Many Parts of the State and Representing Many Breeds

WITH CALIFORNIA importing from the Middle West hundreds of carloads of eggs and poultry products, there is need for an awakening to the necessities of this state for saving the vast sums which are sent over the mountains in payment for these shipments. The same is true of practically all livestock products. California is importing bacon, lard and all pork products as well as beef and even some mutton, but the importations of poultry are greater than of any other livestock products. In many particulars no section of the Middle West is so well fitted to succeed in this industry as is our own state. To be sure the cry always goes up here that "Feed is high." This is true, but when favorable climatic conditions are considered, it seems that they should offset Middle West feed prices. In addition they have to contend with the two thousand or more miles of transportation which is expensive and trying on condition of shipments.

On the other hand, in this state many people go into the industry expecting easy money, not appreciating the fact that it requires a thorough understanding of its principles and a willingness to work out its details. Such people soon find failure staring them in the face, and it is possible there are more quitters in the poultry industry than in any other in California. The Cultivator would not say anything to cause people to enter into poultry raising without properly considering its drawbacks and the work required, and to the end that we may give an intelligible idea of the industry and the how of success, we have sent out a number of questions to several poultry breeders. So far as possible we have sent to different parts of the state and amongst breeders of different varieties. Many have responded, though some have not, which accounts for one or two of the favorite breeds not being represented in the replies. We believe these answers will give a better view of conditions and methods of handling poultry than any series of set articles. Besides they follow out a line which has been taken up by the Cultivator with citrus and deciduous fruits ond other agricultural industries of the state. Further, we hope that these communications will cause others to give of their experience in the columns of the Cultivator, thus affording the most valuable literature we can gather together regarding the industry.

The questions sent to the various poultrymen are as follows:

"Having given special attention in the Cultivator from time to time to various features of California farm methods, we have found these special efforts fully appreciated and of great value to the particular interests touched upon. The poultry industry has been represented in these specials and its importance calls for repetition of that special effort, or rather than a repetition, perhaps an improvement in our former poultry specials, in this, that we wish a more extended representation of breeds and of localities. To this end, we send the following questions and will appreciate such answers as you may deem proper:

1. Do you produce poultry and eggs for market and are you breeding to build up a strain of pure bred stock?
2. How many do you keep?
3. What is your breed and why do you prefer it?
4. Can you give cost of feed per hen per year; also net protfit per head?
5. What do you feed? Do you buy in large quantities or as needed?
6. What do you grow for green feed?
7. Do you yard your fowls or give range?
8. Do you use open front, movable or closed houses?
9. How do you handle the lice and mite problem?
10. Can any co-operative method of disposing of products be used so as to give a more just proportion of profit to producers, and what plan would you suggest?
11. On the whole do you consider that for the labor and capital invested, the poultry industry is profitable and has a greater future in this state?

Replies received follow without comment:

### S. E. Gregg, Excelsior White Leghorn Ranch, Riverside.

1. I do produce eggs for market but as few fowls as possible, these being confined to surplus cockerels sold as broilers and fryers. I have never found it necessary to send hens to the butcher. I certainly do breed pure bred stock.

2. One thousand laying hens.

3. S. C. White Leghorns exclusively. I prefer them after trying White Rocks, Buff Orpingtons and Black Minorcas because of their smaller consumption of food, superior laying capacity as well as their hardiness and adaptibility to California climatic conditions.

4. During the past year of abnormally high prices it has cost me one dollar and fifty-five cents per hen to feed them. And now you come very near prying into private business and ask a question which you would never think of asking the butcher, the baker or the candlestick maker. If I were to ask you how much you made per year publishing the "Cultivator" you would tell me that it was none of my business and tell the truth too, and if I should tell you the same regarding my profits it would also be true—but the poultryman seems to be in a class by himself in that everyone feels free to ask all sorts of questions. I have been asked, since I have been raising chickens, How old I am. How long I have been married and do my wife and I live happily together. How many children I have. How old are they. What I do for pip. How much money I put into this business. Do I wash my hens to keep them so white, are any of my daughters married, are they engaged, and always how much I make out of this business. I do not know why it is that the "chicken man" should be expected to give away all the secrets of his business to entire strangers but so it is, and so I will tell you, in strict confidence of course, that my net profit last year was almost exactly twice as many dollars as I had hens.

5. I feed a dry mash composed of bran, ground barley, middlings, corn meal, beef and blood meal and a small proportion of one of the proprietary egg foods. This is fed in hoppers and kept before them all the time. At night I feed wheat, whole barley or Kaffir corn all they will clean up, which I find is about three quarts to fifty hens. I buy as needed.

6. Alfalfa to which they have free access.

7. My fowls are yarded. I get all the free range I want from my neighbors' hens.

8. My houses are stationary and can be closed but when all windows are open they are about one-half open sided.

9. For lice I dust the hens individually about twice each year with an insect powder composed of flowers of sulphur, tobacco dust, flake napthaline and fine road dust. The rest of the work of keeping the lice down the hens do themselves. I have no mites at all. I keep them out by spraying the houses, perches, nests, etc., twice a year with creolium, one part creolium to twenty of water. When I say I have not mites I mean just what I say, I have none and have not had since I commenced the Creolium treatment three years ago. P. S. I am not interested in the sale of Creolium.

10. This number I will pass up to those who know more than I do. It is a hard problem—too many for me.

11. The average result of poultry raising is failure. The average flock of hens do not lay enough eggs to pay their feed bill and the labor of caring for them. This is not joke but cold, disagreeable fact. It is also true that the average merchant makes no money, that not one newspaper venture in five is a paying proposition and that the same can be said of almost any other line of business. Poultry raising is no job for an imbecile or a lazy man, but given the same amount of horse sense, energy and push that is necessary to make any other business a success good returns can be had from poultry raising. When the poultry men will stop haphazard breeding or breeding for "points" without reference to egg production and breed from the best only, when he will use the same care in the selection of his breeding stock from a utility standpoint that the successful dairyman, for instance, uses, there will be a far greater future for our business than the past has ever shown. In my opinion there is just one way to find out what hens are fit to breed from and that is the trap-nest. I have very little confidence in feeling under a hen's tail to tell how many eggs she is going to lay, but that is another question.

* * *

### Vincent G. Huntly, Petaluma.

1. I market eggs when not sold for hatching purposes, and am endeavoring to build up the best of strains in several varieties of pure bred stock.

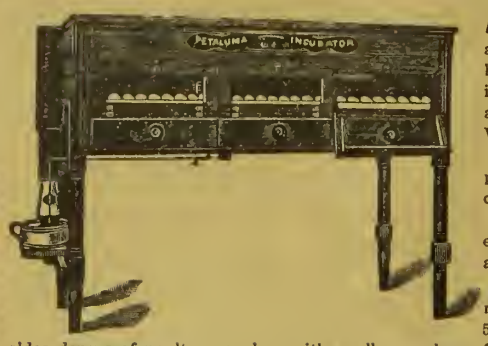
2. Keep in the neighborhood of 900 to 1000.

3. My principal breeds are Black Orpingtons, Buff Orpingtons, Barred and White Rocks, Black Minorcas, Buff and White Leghorns, White Wyandottes, Indian Game, and last but not least, Aylesbury Ducks.

4. Cost of feed varies according to market and breed of poultry kept. White Leghorns or the like should run from $1.25 to $1.50 net profit per year, according to their vigor and laying capacity. To a certain extent what you put in a hen, if she is a good one, you have a chance of getting out of her.

# Petaluma Incubators and Brooders

***Awarded GRAND PRIZE at Alaska-Yukon-Pacific Exposition, Seattle, Wash.; Two First Prizes and Silver Medal at the late California State Fair***




***Petaluma Poultrymen*** in accordance with their aim of attaining the highest degree of efficiency have steadily selected ***Petaluma Incubators*** and ***Brooders***—the Standard of the World.

We have equipped all the big poultry plants and have several contracts to complete before January 1st, 1910.

One firm of poultrymen has 47 504-egg Petaluma Incubators giving a capacity of 24,000 eggs at one time.

We also have contracts to equip a number of plants with from 10 to 20 504-egg ***Petaluma Incubators,*** besides dozens of poultry ranches with smaller numbers of machines.

***Winners of More Prizes Awarded by World's Fair Judges Than Any Other Make***

We have stated before and we ***again*** state that more Petaluma Incubators and Brooders are used than all other makes combined in Petaluma and all that great section of the country west of the Rocky Mountains, which is more than one-third of the entire United States, and the Petaluma is fast reaching a similar position among Eastern poultrymen. As rapidly as its merits become known does it supplant all other kinds.

## Midland Poultry Feed

Is the best ground mixed feed and hundreds of the successful chicken raisers use no other. Ask for it and take no other.

## Petaluma Incubator Company

**Petaluma, Cal.** **Indianapolis, Ind.**

Our General Agents for Incubators and Brooders and Midland Poultry Food:
**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**



# Arlington Egg Ranch

RIVERSIDE, CALIFORNIA

W. S. WILLIS, Prop.

SPECIALTY BREEDER of

## Wyckoff S. C. White Leghorns

**"THE BUSINESS HEN"**

When it comes to egg production, it would be extremely difficult—probably impossible—to find a more satisfactory breed than the White Leghorn.

In choosing the foundation for a money-making flock of White Leghorns, you will make no mistake of you adopt the famous Wyckoff strain, which has stood at the head of the heavy laying class for upwards of a quarter of a century..

Our breeding pens include a splendid collection of high-class stock—hens of proven merit as egg producers, carefully seleetd from our heaviest layers, and properly mated to insure best results in the development of the ideal White Leghorn of the genuine laying type.

EGGS FOR HATCHING, $2.50 per setting (15); incubator lots, $8.00 per 100, or $7.50 per 100 in shipments of 200 or over.



RANCHO MIRASOL

## WHITE LEGHORNS

Eggs, January to July. Order NOW.

CARL C. CURTIS, Owner

Lincoln Ave. & Ventura St., Pasadena, Cal.



# Goodacre Bros.

## Breeders of the World's Best

Buff Orpingtons, Rhode Island Reds. White Leghorns and Buff Orpington Ducks.

***25 Firsts, Silver Cup, and Two Silver Medals***

already won at five shows this season. Sacramento, A. Y. P. Exposition, Seattle, Phoenix, San Jose and Oakland. Eggs by the setting or in incubator lots. A few good breeding cockerels and trios of ducks.

***Goodacre Bros.*** ***Compton, California***


5. My feed is varied from time to time but general ration is: Morning mash consisting of 3 parts bran (heavy), 1 middlings, 1 shorts, 1 ground corn, 1 rolled barley, 1 Darling's meat scraps, small quantity linseed meal, charcoal, bone meal, sulphur, salt and pepper at times; grain (early morning sparingly); evening, grain, Chevalier barley or oats, cracked corn; afternoon, kale, etc., ad lib.

6. For green feed grow kale, alfalfa and Swiss chard.

7. Yard fowls, but arrange alternately, that is, we have open runs for four or five pens at a time.

8. All kinds of houses are used for the purpose of experiment, each presenting advantages and drawbacks. The open front, properly constructed, seems in favor.

9. Handle lice and mites in various ways. For hard cases spray houses with corrosive sublimate solution twice at intervals of three days. Then follow with crude oil and carbolic, the latter ten per cent, in a week or so.

10. Co-operation is the only way to the best results for the producer, but unfortunately it is difficult to get farmers generally to co-operate, owing to their love of independence.

11. The poultry industry promises a great future, and is profitable to the extent of a fair living, but is not a "get rich quick" business as a general rule.

* * *

S. C. R. I. RED BRED AND OWNED BY DR. C. E. WINSLOW, MONROVIA
Won First as Cockerel, Southern Cali fornia Show 1908. First Prize as Cock, 1909.

**Frank E. Baldwin, San Jose.**

We are engaged in producing eggs and poultry for market and breeding to produce Standard bred Single Comb White Leghorns, equal if not superior to any in the world. We keep 1500 matured fowls and from 1000 to 2000 youngsters coming along—have over 1000 chicks growing now.

We prefer the White Leghorn because the climate of California is peculiarly well adapted to the successful breeding of this variety. We have a climate superior to Southern Italy where the Leghorns were famous egg producers before this country was discovered. Because the White Leghorn has been bred to a larger size than any other Leghorn without losing its egg producing qualities. Because its larger size gives a larger egg. Because the young roosters come to one and one-fourth and one and one-half pounds plump broilers in less time and with less feed than any other variety. Because there is more money in the quick return from marketing small broilers than keeping heavy breeds to fryer and roaster ages. Because the fertility of White Leghorn eggs is good (as compared with other varieties) all the year around, thereby enabling one to hatch at such time as will bring his broilers into market when prices are highest. Because of the activity of the males fewer are required in a flock, making the feed bill less for the matings than in the heavier breeds. Because the White Leghorn female produces the largest egg (as well as a greater number), for the feed consumed than any other fowl. Because the white feathers and yellow legs make a neater looking broiler than any black or colored bird. Because the White Leghorn is hardy and easy to raise, (from carefully kept records we find that we raise 95 per cent of the chicks put in our brooders), and more people succeed with this variety than with any other. Because the White Leghorn lays a white egg commanding a better price in our markets than a colored egg. Because the White Leghorn is one of the oldest varieties and breeds true to color and type where one begins with a good strain. Our birds net us a little over two dollars a year above the cost of feed.

The cost of feeding is about a dollar and a half per year per hen. We figure the profit from our hens on a market basis at about $1.25 each above feed and the balance of the $2.00 or over comes from the fancy. We began our poultry keeping exclusively for market eggs. We found it cost no more to keep a thoroughbred than a scrub and paid better. Then we found it cost no more to keep the best strain of Standard bred fowls and it paid still better. The reason Standard bred fowls pay best is because they are larger, stronger and better producers. No

ordinary flock can produce for market, broilers, fryers or roasters, in the same time or with the same feed that the same weight in meat can be produced from Standard bred poultry. The same is true in egg production.

We feed wheat once a day, green stuff once, dry mash before the fowls all the time and an occasional wet mash by way of variety. The mash is made up of bran, ground barley, middlings, corn meal (in rainy season), alfalfa, meat scrap, and cocoa nut meal with a little salt. We buy in large quantities as room to store permits.

We grow for green stuff: barley, Swiss chard, kale and mangle wurzel beets. With plenty of water we find swiss chard very desirable, but mangle wurzel beets the most satisfactory with little water at command.

We give range to the growing stock from time they leave brooders till maturity and then yard them. They need the range for growth and development but better results can be obtained from yarded fowls after maturity if properly cared for. We have two yards to each house (10 hens) in one of which barley is growing. When six or eight inches high we use that yard for the hens to run in and immediately plow and sow to barley the other yard. By repeating this operation the fowls are provided with fresh ground from which the growing barley has taken all disease germs as well as having a constant supply of green feed.

We use open front, stationary houses facing the east (our rains are from the south and southwest and winds from the northwest) and only one thickness of burlap opposite the birds on the roost is needed in the rainy season where the front roost is only two feet from the front of the house. The houses have movable dropping boards, oil can nests below and scratching pen below nests, the latter being reached from rear of house. Everything is movable and once in a year or two we spray everything with a ten per cent solution of crude carbolic acid in number 28 distillate. The roosts are hung from roof by wire and sprayed with a hand "Prize" spray pump with a Bordeaux sprayer worked from a pail every two or three months—the nests are sprayed at same time. This solves the mite question. The body lice are kept within healthy limits by providing dry dirt in the rainy season in the houses under the dropping boards, one-third of the ground floor of the houses being devoted to this dust bath. In the dry season water is regularly turned on the ground to moisten up the earth around a tree for instance, so the birds can work holes in the ground and dust themselves when the regular planting and growing of the barley in the alternate yards is insufficient. If these simple ideas are followed no one need give the lice or mite problem a second thought or a moment's worry.

We have found, for the labor and capital involved, the poultry business pays better than any other business we know of which is not specially favored by enjoying a monopoly or advantage not open to others. The poultry business, as a whole, is in its infancy. On this coast it is far behind the market requirements owing to the rapid increase in our population and the few new comers who need to interest themselves in poultry as compared with the many well to do people who come to enjoy the outdoor life in this wonderful climate. These conditions will continue for a long time and the best informed poultry men are increasing their plants and stocks to take advantage of conditions. The get-discouraged-too-quick people went out as wheat and feed stuffs went up, and were surprised to find poultry and eggs more than enough higher to make the difference. All that the established poultrymen can produce and all that the new people can add to the output will not supply the home demand on this coast for years to come. The poultry industry has a bright future and will compare favorably with any industry on this coast for returns for capital, labor and knowledge.

* * *

**W. L. Sullivan, Agnews.**

1. We breed for show and breeding stock. Our strain is ten years old.

2. We hatch about 800 and have others reared for us.

3. Our breed is S. C. B. Orpingtons. Never had a breed that would make so much money.

4. We have too many chicks coming and going to be able to give an exact average cost of feed per hen per year, but it costs about $1.25 to mature one of ours our way.

5. I give the formula for feed we use:

10 lbs. Bran
10 lbs. Middlings
3 lbs. Alfalfa meal
4 oz. Charcoal
3 lbs. Meat Meal.
2 oz. Salt

This is to be kept in a "hopper" before the birds at all times. At evening I feed grain in litter—wheat, Egyptian corn, etc. Green food ad. lib. We stock up with wheat at threshing time.

6. Grow Swiss chard for green feed.

7. We both yard fowls and give range.

8. Use open front houses with burlap curtains.

9. Use dust powder for lice and coal oil for mites.

10. Just at present concentrate consignments. Get the least dishonest commission man and try him out with the bulk or all of the produce of the neighborhood.

11. This "hen business' hasn't started yet. Do you know that less than one-tenth of one per cent of the farmers of this country keep pure blooded fowls?

* * *

**A. W. Huskins, 713 Waterloo St., Los Angeles.**

I am breeding for both pleasure and profit and I aim to produce as near the Standard of perfection as possible. By breeding from only the vigorous and best shaped birds I produce the best layers and market poultry. During the breeding season I try to keep about forty breeders, twenty White Wyandottes and twenty White Orpingtons.

About the first of June I usually have about one hundred young stock and from these select my next seasons breeders and supply my customers. I have only a city lot and am away all day during the week. I find from the past six years' experience on this place that I can care for and enjoy the above amount of stock very nicely and at a good profit for the investment.

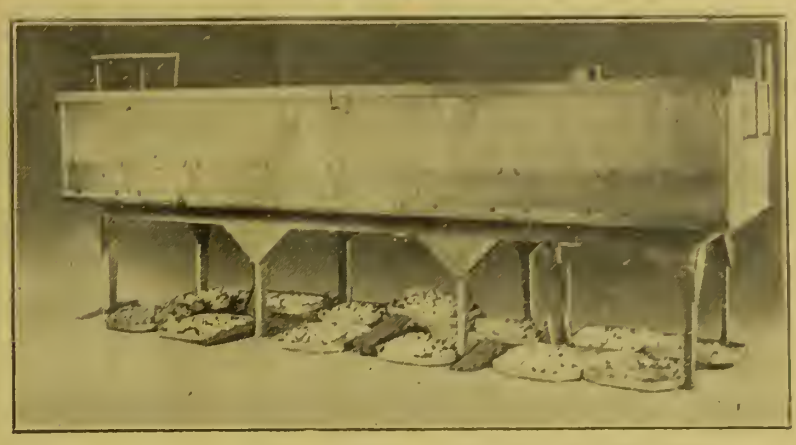
I prefer White Wyandottes and

"Chicks Well Hatched are Half Raised"

**San Jose Hatchery, San Jose, Cal.**

**Day-Old Chicks**

The Business Machine



One of our Incubators (2000 egg capacity) just after hatch.

A FEW WORDS FROM OUR MANAGER

To get strong chicks we must have good eggs. I am very particular about the vigor and vitality of the breeding stock from which I get the eggs to hatch the chicks we sell. They come from business utility flocks. Are true to breed, but not exhibition stock.

Quality of chicks is what I put first. I do not seek to hatch such a great quantity that people remark about the number of chicks the San Jose Hatchery turns out. But I do aim to hatch the very best chicks to be had, sparing no effort to do so.

There is more I would like to tell you now than these few words about quality. About our incubators and other things. But I am really too busy getting in shape for next season's work at our new place. We have recently removed to 563 Minor Ave., San Jose, where we have better facilities than formerly in many ways.

I shall answer correspondence promptly and all orders will receive my personal attention.

I would like to hear from you if you are going to buy chicks.

Yours very truly,
HENRY LANGENSCHWADT, Manager.

**San Jose Hatchery, San Jose, Cal.**

"Chicks Well Hatched are Half Raised"

**West Coast Egg Food**

***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

**EGG-MORE**

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90, 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

$2.60 FREE. If you will send us the addresses of ten persons who have any fowls, we will send you, post-paid, our Biddy Booklet and an article worth ten cents, which many say no household should be without. If you will send us twenty-five addresses, we will also send you The Poultry Manual, profusely illustrated, by those high authorities, F. L. Sewell and Ida E. Tilson, a reliable work worth fifty cents, but free to you. For 100 addresses we will also send free, and expressage prepaid, another most useful article which sells in the East at $2. We merely want to send to them, by mail, some advertising matter, but your name will not be mentioned in connection with it in any way.

**West Coast Mill**

**Cor. Griffin and Alhambra, Los Angeles**

**MRS. C. D. HUBBARD'S** WHITE WYANDOTTES

Eggs for hatching September 1st '09. Write for circular.

BOX 60, ROUTE NO. 1 SAN FERNANDO CAL

# BUY FROM THE FACTORY
## SAVE $5 TO $20
**SEND FOR MY BOOK TODAY**

If you do, I will quote you a special factory price on an Incubator and Brooder that will surprise you. I want every man or woman who raises chickens or who thinks of going into poultry for profit, to get my 1909 offer and book and learn the remarkable value I am giving in my

# "SUCCESS" INCUBATOR
## 130-260-340-612 Sizes
**Fire-Proof--Freight Prepaid--30 Days' Free Trial**

Inglewood, Cal., June 2, 1909.
My six 612-egg "Success" Incubators run more evenly and hatch better and stronger chicks than any of the other makes I have. I will sell off all others and use the "Success," they are the best.
CARL MATSON.

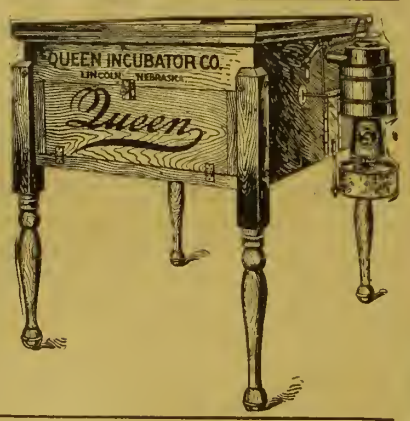
Whittier, Cal., Jan. 12, 1909.
My 612-egg size "Success" Incubator runs with less attention than any other machine I use. Am well pleased with it says,
MRS. W. H. OBEAR

But write today for my "Book About Incubators" and special factory prices. IT'S FREE.
Write me personally

**E. E. McClanahan**
**112 E. 8th St. Los Angeles, Cal.**

1910 32 Page Book will soon be ready. It will name some prices that can't be met.

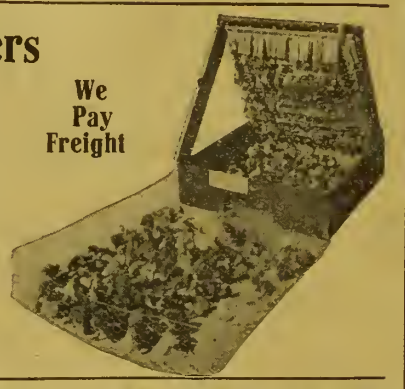
# 340-EGG SIZE $18.50




After Monday December 6th we offer what few 340 Egg Size 1910 "Queens" we have left at $18.50, order right now, or send for large free book that tells all about them. 160 Egg Sizes at $11, all other sizes sold out. 25 per cent discount on all brooders. Chance of your life time to get a high-class hot water copper tank Incubator at cost. Don't wait but write today if you want one. Save Money—Buy Early.

**Queen Agency Co.**
**108 E. 8th St. Los Angeles, Cal.**

# Over 1300 Fireless Brooders Sold Since Mar. 1st

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is what it costs you to write to us to send the 1910 illustrated 32 page chick and hatching egg book. Contains poultry lectures entitled "Poultry Pays" and "How to Raise Baby Chicks," articles can be understood by a beginner and are true and straight from the shoulder. These books are FREE. Just write us you wish the book and send the names of five of your poultry friends if you care to. Write today, the sooner you get the book, the quicker you will get the largest, most interesting, "Story of the Baby Chick" ever told.

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# Single Comb White Leghorns

The first essential to success in the poultry business is that the foundation stock or eggs be purchased from a reliable breeder, one who has made a success of the poultry business from the fact that his stock has proven to be the **Business Hen**. Such stock or eggs we now offer you and stand back of our sales. Prices for stock on application. Correspondence solicited.

Eggs—$1.50 per 15, $7.00 per 100 and $60.00 per 1000.
A few choice cockerels for $3.00 each.

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**W. G. SUITS, Prop.**
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From the leading Eastern Flocks. An extra choice selection of Toms and Hens. Correspondence solicited. Prices reasonable.

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Single Comb - Rose Comb
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RED FEATHER POULTRY YARDS

***WINSLOW'S REDS***
As winter layers cannot be surpassed. Stock for sale at all times. Write for Winter Mating List.
**DR. CHAS. E. WINSLOW**
**Proprietor**
**Bx 368 Cor Charlotte and Greystone, Monrovia, Cal**
Send stamp for Club Standard.


White Orpingtons because I admire a white fowl and they meet my requirements better than any other varieties I have ever kept. Space will not permit my telling all their good qualities, but if any one will write me I will give them in detail. I have never tried keeping a certain number of hens together for a given time to ascertain the cost of feeding per hen. I keep strict account of expenses and receipts and my little plant has been giving me a net profit of about $200 per year, I suppose I would average fifty birds the year around and that would be $4.00 per hen. I have made a net profit of $185 in seven months. This does not include eggs and chickens used on our table. My stock being so much better this season I will expect a banner year.

Most of the time I dry feed a balanced ration and buy one sack at a time as needed. For green food I use alfalfa meal. I mix it with the balanced ration. I also use lawn clippings.

My fowls are kept in yards eleven by thirty-five feet. During breeding season I keep 8 or 10 hens and one male to each yard. I use the shed roof house 6 x 8 feet, 7-foot front and 5 feet in back. The three sides are absolutely tight and are ventilated in front.

Yarded fowls do better if they have a scratching shed and I consider it very necessary. I use liquid lice killer on the roosts and go over them with lice powder about once a week. My plan of disposing of my products is in the first place cull out all the young birds that don't look first class and market them, I average 20 cents per pound live weight for culls and do it the year round.

This gives more room for the birds I want to save, I then exhibit at the Poultry Shows and advertise my winnings. In this way I keep doing business every month in the year.

For those producing eggs and broilers for market I should think a co-operative or central station method would be a good thing.

Yes, on the whole I do consider that for the labor and capital invested the poultry industry is profitable and has a greater future in this state, not for every one, mind you, but for the person adapted to it. There are many failures in all businesses and the poultry business has its share, but for the man that will work, plan and figure out the problems and profit by his experiences there are surely great things ahead in the poultry business for him.

* * *

**C. U. Chamberlin, Los Gatos, Santa Clara county.**

1. I do not produce poultry and eggs for market. I am breeding from pure bred stock for the purpose of furnishing my patrons the best stock of the breed of fowls they desire.

2. Keep from 150 to 600 fowls.

3. My especial favorite breed is the Rhode Island Red, because they are heavy layers, an excellent table fowl, good mothers, docile, and not heavy feeders.

4. The cost of feed per hen per year can only be given approximately as it varies from year to year. For yarded fowls this year it amounted to about $1.50, for those on free range not over $1.25. The profit also varies with years from $1.00 to $3.00 per fowl.

5. I feed the usual grains and mill feed, also meat in some form as a part of the daily feed, buying in as large quantities as we have room to store.

WHITE LEGHORN CHICKEN RANCH OF S. E. GREGG, RIVERSIDE.

6. For green feed I use alfalfa, kale, Swiss chard, and also barley sown after the rains begin and barley sprouted during the dry months.

7. Fowls are yarded, but yards are so large as to be nearly as good as free range.

8. Use open front houses with drop for bad weather.

9. Mites and lice are kept down so that they are never a menace, by the use of kerosene on the roosts and houses every few weeks, and good dusting places for the fowls, with a little tobacco dust in them as a help to the hens in keeping themselves free of lice.

10. No doubt there could be a co-operative society formed that would be a good thing. I expect the plan in use at Petaluma and Santa Rosa is all right if well followed and lived up to.

11. Yes. For the capital and labor put into it the profit is better than any of the usual farm productions like alfalfa hay, butter and cheese, or pork; more so than the usual farm crops of grain or vegetables. I look for a great future for the poultry interests. As the state fills with the incoming eastern homefinders, each family will desire its own supply of poultry for eggs and chickens to eat. The several new states and territories are to be supplied as well, and the demand for good poultry will increase for years to come.

**D. H. Hammons, Pacific Poultry Co., Inglewood, Los Angeles county.**

1. We produce poultry and eggs for market and are building up a strain of pure bred stock.
2. Keep 1000 breeders.
3. Keep White Rocks because most profitable. A whole chapter should be written on this point.
4. Cost of feed per hen per year is $1.20 and by my system net profit per hen is from $18 to $20 per year.
5. Feed mixed grains and dry mash, buying in car lots.
6. For green feed use alfalfa and vetch.
7. Fowls are kept housed all the time.
8. Houses are open front, permanent.
9. Spray every two weeks thoroughly with creolium and have no lice or mites.
10. An Egg Producers' Association should handle marketing of products to the profit of its members.
11. I most certainly consider that for the labor and capital invested the poultry business is profitable and has a greater future in this state.

* * *

**Mrs. Frank Metcalf, Inglewood, Los Angeles county.**

1. Am breeding my own strain of pure bred stock.
2. I keep from 50 to 100 fowls.
3. I am raising Buckeyes because I originated them and like their rich color and general excellence.
4. One dollar per year will feed a Buckeye hen, and I have made as high as seven dollars per hen, net profit, in the fancy.
5. In feeding I give a balanced ration, grains and dry mash, buying as needed.
6. For green feed I use alfalfa and beets.
7. My fowls are kept in yards.
8. I use open front houses.
9. Lice and mites are handled with distillate and spray pump, tobacco dust and tea and creolium.
11. I most certainly think if the same business training is given the poultry business and the same ratio of capital and brains employed, it has a great future in this and all other states. And its present output of $7,000,000, just market eggs and poultry, is not a small factor in finance.

* * *

**J. L. Harrison, Lake Ave. Poultry Yards, Pasadena.**

1. Owing to the perverseness of nature in failing to reproduce itself and the invariable reversions to ancestral types, all breeders are market poultrymen to a great extent. Fully 75 per cent of the males and 50 per cent of the females are technical culls, lacking in necessary shape, size or color or possessing some disqualification which renders them worse than useless to the conscientious breeder. The man who breeds his culls doesn't stay in the business long. Have bred my present strain for six seasons without introducing new blood and find the product stronger and better than ever.
2. Average 300 hens and raise 600 to 800 chickens yearly.
3. Rhode Island Reds exclusively. Have experimented with two colors Leghorns, same of Rocks and Minorcas and found them all profitable, but the Reds are in greatest demand and fill the bill for a general purpose fowl nicely. Business is good, so there is no use of exploiting their many virtues more fully.
4. The cost of feeding a hen for the last year is within a fraction of fourteen cents per month, say $1.65 per year. The Rhode Island Red hen does more October, November and December laying than any other breed known to the writer hence the net profit per hen is greater if all the eggs were marketed at retail prices the net profit per hen would be close to $1.75 per year, but as a good part of the eggs are sold or used for hatching, the actual net profit is not far from $4.00 per hen. In these figures no deductions are made for interest on capital invested nor for owner's labor.
5. Dry mash mornings, green feed noons and grain at night. Dry mash is conceded to be wasteful but the waste is more than evened up by the time saved in mixing and feeding, and fewer cases of sour crop and lesser death rate among the fowls. The mash formula is varied to suit season and conditions. No charcoal, tonics nor stimulants used at any time. Owing to the almost prohibitive price of wheat, sprouted barley and cracked corn have been substituted for the grain feed for the past year with most satisfactory results and considerable rolled barley is used in the dry mash. All grain is bought in ton lots for spot cash, thus effecting a saving of 15 to 20 per cent over retail prices. A high grade beef scrap and Croley's green bone is used liberally in the mash feed.
6. Lawn clippings from city parks at irregular intervals with a small patch of kale in the garden for fall use.
7. All fowls closely yarded. For every ten hens and one male a 16x36 foot yard is provided, furnished with hydrants and ample shade.
8. Closed houses every time and not a case of catarrhal cold nor roup in the 600 youngsters raised this year. In this particular locality there is too much climatic variation between day and night to fool with open front or mushroom housing.
9. Crude carbolic acid and water, once a week when the weather is dry and warm. The formula of one pint to six gallons is plenty strong enough when applied frequently. The spray nozzle should be thrown away, the rubber hose slit across the end and the pressure regulated by thumb and forefinger. For an even application the acid should be saponified. This may be done by the addition of lye or soda and a cheap oil. Heavy cylinder is good and less injurious to white feathers than the black crude oil of the coast. A quick and easy way is to use equal parts of the acid and Gold Dust washing powder. Nest boxes should be washed with sal soda water, three pounds to the gallon, and applied hot when convenient. This wash is effective when used on perches and hangers with positively no chance for soiling the plumage. Attend to the bug poisoning in person and do not delegate the job to the hired man. It is hard work but it is the one chore around the chicken houses that should be done most thoroughly.
11. A wealthy retired dry goods merchant once told the writer that twenty-four out of every twenty-five who embarked in his line of business failed, part from lack of capital and more from lack of experience. After reviewing a long list of poultry failures it is a pleasure to recall to mind several acquaintances who have made good. Intensive methods of yarding


# Supplies for the Poultry Raiser

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Crude Carbolic Acid
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Free THIS BOOKLET. It is Full of Information, Formulae, etc., for use on the Ranch
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Braun Chemical Co.

San Diego
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and housing, while necessities to a breeder, are too expensive and laborious for a market poultryman unless he has dependable help in his own family. The Rhode Island and Petaluma colony methods pay in their respective localities and ought to pay in Southern California if land could be bought at fair prices. Good hard business sense and a working knowledge of poultry are necessary to the successful handling of a large poultry ranch. From the testimony of many who have tried keeping poultry on a strictly commercial basis, one is led to believe that year by year the net profit of a well managed plant is not far from one dollar per hen. And herein again no account is taken of the interest on the investment nor any charge made for the operator's labor.

Since 1902 the price of wheat has advanced 100 per cent while the advance in the price of poultry and eggs is not in excess of 50 per cent. Other grains have climbed up along with wheat, so the net profits from poultry are less than formerly.

One of the best combinations for Southern California should be citrus fruits and poultry, scattering the colonies around the grove. The trees would receive a much needed fertilizing and if the theory of $1.00 per hen profit worked out, the ranch income would be materially enhanced. The writer tried out this plan on a small scale some eight years ago and got most satisfactory returns both from oranges and poultry.

In many kinds of farming poultry should make a profitable side line and when the farmer states his poultry does not pay you may safely assert the fault it not in the chicken.

**Bee J. O'Mealey, Anderson, Shasta County.**

1. While in the business we produced poultry and eggs for private trade from pure bred stock.

2. The flocks varied at times from ten hens upward, always remembering that smaller flocks are more profitable than large ones; and when a large number is kept, not to exceed 20 are allowed in one enclosure.

3. The Barred Plymouth Rock has been most satisfactory for me, but when I embark in poultry keeping again I think I shall try Rhode Island Reds or some of the Orpingtons also. The Barred Rocks appeared to have a higher per cent of fertile egs, a less number of chicks died in the shell and infant mortality was less, while in point of size and egg production, they held their own against all comers.

4. I never depended entirely upon purchased feed, but had waste, garden and dairy products on which no value could be fixed, yet they materially reduced the feed bill, but it is higher than generally estimated. Also in actual practice the hen which

PARTIAL VIEW OF ROSENEATH EGG RANCH, ARLINGTON.
Oswald M. Robertson is Proprietor of this Ranch. The View shows Number 1 and Number 2 Brooder Houses and the Office.

# HATCH YOUR CHICKS WITH A JUBILEE

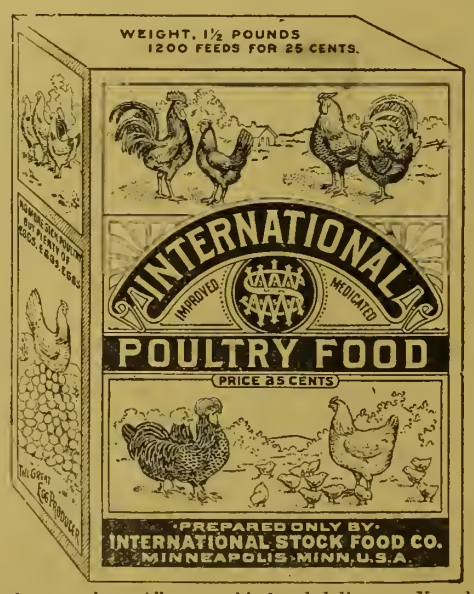
***Chicks well hatched are half raised. The Jubilee Hot Water Incubator is the best incubator made. Some of our most successful and largest poultrymen use Jubilees. Every machine guaranteed.***

## Darling's High Protein Beef Scrap

Fed by the leading poultry breeders of the United States. For analysis see Bulletin 164, Agricultural College, Berkeley, Cal.

## Ward's Fireless Brooder

Built to meet the conditions and climate of California. Send for special circular.

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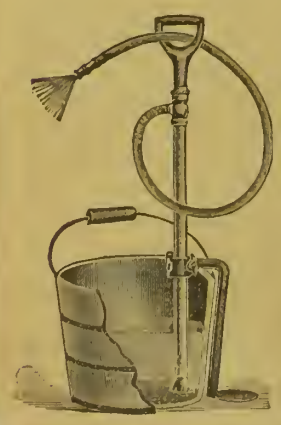
The wonderful egg producer. The great production of eggs has given the "International Poultry Food" a wonderful reputation throughout every state. We guarantee that it cannot be fed to hens at any time, winter or summer, without showing a large increase in eggs. You do not have to use the food at an extra expense because it will make you more money after deducting its cost. One extra egg per month will pay the entire cost of feeding it and often more than double the supply. It contains no poisonous or injurious ingredients and has very superior merits.

Put up in 25c, 50c and $1.00 size packages, and 25-lb. pails $3.50.

**Only Costs 8 Cents a Month to Feed it to 12 Fowls.**



## The Prize Bucket Spray Pump

For white wash, guaranteed not to clog. All brass. Just the thing for spraying poultry houses.

## Conkey's Roup Cure

An infallible cure for this dreaded disease. You should always keep Conkey's Roup Remedy on hand. It will cure roup in all its forms. It is also excellent for turkeys and is the greatest remedy known for canker in pigeons. Send for special booklet, Poultry Diseases.

**Send for Our Catalogue. Everything for the Poultryman.**

# Germain Seed and Plant Co.

**326-330 So. Main Street, Los Angeles, Cal.**

produces 150 eggs per year is doing all that may be expected.

5. Grain, such as wheat, oats, barley or buckwheat in litter in the morning, mash at noon, corn, wheat or sunflower seeds at night, the feed varying with the time of year. Prefer to buy at harvest time enough to last the year out and buy of farmers if possible.

6. Cabbage, seakale and kale, and utilize all weeds pulled from the garden, also lawn clippings, particularly white clover.

7. The best practice so far as the fowls are concerned, is to yard the garden and lawn and give the fowls range but it is not always practicable to do so and the losses are less when the hens are confined until noon.

8. In this climate the open front house might do, but we always used a stationary house, well built and fully enclosed.

9. By eternal vigilance. We grew tobacco for nesting material, used air slacked lime freely for dust-baths and to cover dropping board. Everything about the building must be white washed every spring, twice a year is better and kerosene put in all crevices with a machine oil can as often as necessary. Occasionally in spite of all this it has been necessary to grease neck, vent, under wings and legs with lard, sulphur, insect powder and a touch of kerosene or crude carbolic acid, taking care that the two latter ingredients are not strong enough to burn.

10. We never entered the general market, having private customers who ordered their dressed poultry in advance and had standing orders for eggs each week. The general market conditions seem grievously unsatisfactory both to seller and buyer but am unable to suggest a remedy.

11. There is certainly a great field for those so situated as to produce the greater part if not all of the feed consumed, but the person who goes into the business without experience, and attempts to buy in small quantities is doomed to disappointment. It is not an enterprise which can be made profitable without capital or experience and beware of short cuts, secret processes, etc., for they are profitable to no one but the promoter.

* * *

**R. B. Hayes, Garvanza Station, Los Angeles.**

1. This is an egg market, not a poultry one. There are no poultry raisers except in one instance and that at Inglewood. I am keeping a combination, utility and fancy for the egg trade.

2. At present have 900 birds.

3. I prefer Rhode Island Reds, medium size bird, good layers, good poultry and popular.

4. Cost per hen per year about $1.60; net profit on utility basis $1.25; net profit on utility and fancy basis about $2.50.

5. Sprouted oats in morning, green food at noon, two-thirds cracked corn and one-third wheat at night. Dry mash in front of birds at all times. Dry mash formula consists of 3 parts bran, 1 part corn meal, 1 part ground oats, 1 part beef scraps. Shell, grit, and charcoal also in front of birds. Buy in 2 ton lots.

6. Do not grow anything at present. My green food is chiefly lawn clipping, which costs 10 cents per sack. Also get lettuce from the market.

7. Both yard and range. Believe a pullet should be yarded when she matures.

8. Open front houses.

9. Spray once a month with kerosene, crude carbolic and paint roosts with lice killer. Twice a week on

ARLINGTON EGG RANCH, RIVERSIDE, W. S. WILLIS, PROPRIETOR.


# WHITE LEGHORNS

# WHITE LEGHORNS

Standard strain; bred to lay from the best American and Imported Stock that money could buy.

Our laying strain is the result of years of scientific study, experiment and investigation, and the expenditure of a large amount of money.

There is Big Money in poultry if you start right, and conduct the business right. We can start you right and give you instructions as the result of our twenty years of successful experience that will keep you right.

***Eggs, chicks and stock for sale.***

A limited number of choice Buff Orpingtons, prize winners, at reasonable prices.

*A First Prize Winner in Strong Competition.*

Formula for mixing a balanced egg producing mash, used exclusively on the Model Poultry Farm, mailed free for a two cent stamp to any address.

*Off to the Express Office.*

Send for descriptive circular of this year's matings, lists of winnings and description of stock and farm. Address

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*On Free Range.*

**The New Polytechnic Business College of Oakland, Cal.**

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A beautiful Catalogue will be mailed Free to any one who will mention the **Cultivator.**


cleaning days we sprinkle with air slacked lime.

10. There is now a co-operative poultry supply and distributing company. Believe it is working very successfully.

11. To anybody having enough capital and wishing an out door life it is a fine business. When percentages are considered the returns on the investment are high.

It is a well known fact that our supply is not even keeping up with the increased demand for eggs and poultry. Lack of knowledge of the business and lack of capital are the sticking points where the failures occur.

* * *

**Charles E. Winslow, Red Feather Poultry Yards, Monrovia.**

1. I am not producing poultry or eggs for market. Am breeding to build up a strain of winter layers—and birds as true to Standard requirements as possible.

2. I have from hour hundred to over a thousand birds in my yards all of the time.

3. I breed Rhode Island Reds, both combs. I prefer them because I believe they are the greatest winter egg producers of all breeds, and hold their own as layers throughout the year with the best. I say this advisedly, having bred Asiatics, Mediterranean, and other American breeds. They are a fine table fowl, good setters and careful mothers.

4. It is almost impossible to estimate cost per fowl, when I am continually selling stock, but the profits are good.

5. This season, on account of the high price of grain, I changed, to some extent, the rations I have used in the past, and found while reducing the expense of the feed, that I have had in every way as good results. The chicks get nothing but feed meal and

S. C. R. I. RED PULLET BRED AND OWNED BY DR. C. E. WINSLOW, MONROVIA.

water the first week, and bran, and beef meal and lawn clippings the second. Get them to eating wheat as soon as possible, stop it when they leave the brooders. Change feed meal to cracked corn as soon as the chicks will take it, and keep it before them until they are full grown. Then bran, six parts to one of beef meal, all the rest of their lives. Every morning feed all stock, except brooder chicks, a moist mash, containing six parts bran, two shorts, one beef meal, giving just what they will eat up clean at once. At night, rolled barley that has been in soak since morning, enough so there will be a little left to eat as soon as they are up the next day. After this feed I make the rounds and throw into each breeding pen a handfull of cracked corn in the way of dessert. Keep bran before them all the time, and give plenty green stuff in the way of lawn clippings or cut alfalfa. When unable to obtain these I substitute alfalfa meal for one or two parts of bran in the morning feed. I get my feed in five sack lots, ton rates. would buy in larger quantities if I had the room.

6. Use lawn clippings.

7. Keep breeding stock in yards 20 to 20 and 20 by 40, one or two good sized orange trees in each yard for shade. Have two yards of one-eighth acre and two of one-fourth each full of orange trees, in which the growing stock is kept.

8. I use open front movable houses, with door hanging from the top, which is kept up at an angle of 60 degrees the year round, except

FIRST PRIZE R. I. RED COCK OWNED BY DR. C. E. WINSLOW, MONROVIA.

with very young stock, when it is sometimes closed in cold weather.

9. I use the crude carbolic acid for a spray, going over the roosts, and the lower edges of the coops, if occupied by young stock, and nests one a month. The coops are gone over thoroughly two or three times a year. Never put a setting hen on a nest that has not had a good spraying with acid a day or two before, or in a coop with chicks that have not been treated in the same manner, using some good insect powder freely on hens and chicks.

10. Yes. I believe that the Egg Producers' Association of Southern California is organized on the right lines and will win.

11. I answer this with a decided yes. If the same judgment is used in going into the poultry business as into any other business there will be the same proportion of success. The larger number of those who go into the poultry business are unprepared for the undertaking. They have a mistaken notion that it is an easy way of making a living, or that "anybody can raise chickens," and with a head full of "hit or miss" ideas, and no practical knowledge on poultry raising, buy an incubator and eggs enough to fill it, or a bunch of chickens, usually a scrub lot, "because they are cheap," and at the end of a few months find money gone and no profits coming in, sell out at a loss and declare "there is no money in chickens." Or the beginner with more means, possessing no more knowledge or experience, builds expensive buildings and yards, and fills them with high priced poultry, to find that the "income" will not balance the "out go" and while he lasts a little longer than the former, he too becomes disgusted and adds another to the "no money in poultry." It is as ridiculous to expect a rancher to go into a drug store without a knowledge of the business and succeed, as for a man or woman with

no experience in raising chickens to make a success in the poultry industry.

There is a great future for the poultry industry in the state and the next few years will show a wonderful advance in poultry culture. The outlook was never so bright, and now is the time to take advantage of the opportunity offered. Those who have been most successful in the poultry industry, are those who have commenced in a small way, and grown into the business. The way to success is to make a study of the business, decide on the breed, get a few of the best, and while the flock is increasing in numbers, the breeder will be growing in knowledge. Make the chickens pay for the improvements, and in a year or two the plant will have grown into a paying investment.

* * *

**Mrs. C. H. Vary, Pomona, Los Angeles County.**

I am very fond of my Brown Leghorns and when I first started I learned to like the ones best that were nearest to the Standard so when any had to be sold it was always the poorest. Whether we are in the business for market eggs or fancy our

ALASKA.
First Prize Pullet A. Y. P. Exposition, Owned by Frank E. Baldwin, San Jose.

aims are the same in many ways. My profits would not be large if I had a flock of prize winning Brown Leghorns next spring that were not shelling out eggs when my orders were coming in by the hundred and for settings. I have never kept accounts so I could tell the cost of feeding a hen for a year but I know my profits were good before I began selling poultry and eggs at fancy prices. I can find no breed that suits me as well. What is prettier than the Standard shaped Leghorn with the solid black hackle edged with yellow, the salmon breast, and the soft brown of the hen.

My birds have hoppers before them all the time filled with Coulson's Improved Egg Mash to which has been added a little salt, charcoal and alfalfa meal. To my cooked potato parings I mix some of the dry mash for their breakfast. I find they relish alfalfa meal much more when moist than they will eat in the dry mash. At noon I like them to have clippings from our clover lawn and at night I feed all the wheat they will eat. This cool weather I am adding about one-third cracked corn or Egyptian corn to the wheat. I am not afraid of over feeding. I feel there are more Leghorns underfed than over fed.

I like the open front houses best. I do not like the houses at all with space all around the bottom. I had one and was always worried for fear a bird would fall off the roost in the night and be in a draft, so had the house built over.

My houses are sprayed with Lee's lice kiler and coal oil nearly equal parts. If a house is sprayed once a week I can hardly think there will ever be a mite in existence. I powder my birds several time a year with insect powder and in that way keep them very free from lice.

## WHY WE BREED BARRED PLYMOUTH ROCKS.

**By D. T. Wieland, Moneta.**

BECAUSE we are fully convinced from actual tests that these are the best all purpose fowl in the world today. They are the standard by which all market poultry are judged. Ask any dealer in poultry, and he will tell you that all yellow skinned dressed poultry go into the Plymouth Rock grade, the highest of all. All others go into the second or third grade. He will also tell you that they set the price on poultry.

The Barred Plymouth Rocks, as we have found them, are beautiful birds to look at. Their nice barring, rich yellow legs, bright red combs, symmetrical form, make an ideal bird, and when bred to standard shape are a mighty good business fowl.

The young grow very rapidly, are hardy, rugged rustlers and at an early age are ready to fry or broil. As roasters none can compare with them. One especially strong point in their favor is the ease with which the youngsters can be dressed. You need not fear the breaking or tearing the skin of a fryer. It is an awful job to dress a one and a half pound chicken of many of the other breeds, as their skin is so easily broken.

I have raised Barred Rocks twenty years. In this time I have raised also 13 other different breeds. As cash getters they are the best we have ever tried and I feel sure there is nothing in hendom at this time which is their equal. They may be produced sometime in the future but are not on top at this writing.

As layers, you can get pretty nearly anything you want if you know how. I have had hens lay 250 eggs in twelve months. You can do the same. The one thing I like above all else in Barred Rocks is they lay every month in the year. They don't make you tired carrying eggs to market in the good old summer-time when eggs are plentiful and cheap. Neither do they try your patience running from yard to yard daily in quest of eggs, without getting them, when eggs are scarce and high.

Those who wish to raise poultry for the largest amount of profit, may rest assured of success if Barred Plymouth Rocks are chosen, providing they manage correctly. While the breeders and fanciers of the Barred Rocks are in love with them they do not fail to recognize other good breeds, and many of them.

One nice feature in this noble breed is their color; it is such that always looks clean. They always look dressed up, city, town or country, all the same, always bright, never dirty. Then, too, you can keep them yarded or on range—they do equally well. They are good foragers if given their liberty.

I would recommend the first and best of the American production, the Barred Rocks. Get the best you can afford, study them and I venture the assertion you will always be satisfied and pleased with them. No matter how you are located, the cold and warm is all the same to them, they prosper under any condition and so will you, for you will have that satisfied feeling of choosing the best.

Just a hint on breeding:

Keep your light males and light females together. Your dark males and dark females together. The pullets from your light mating will


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A GREAT FACTORY WHICH MAKES THE WONDERFUL

AUTOPIANO

We have sold over 1,000 of these instruments in Los Angeles and vicinity.
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This machine only $35.00.
Sold on monthly payments of $5.00 cash and $5.00 per month. Will do all that any $100.00 machine will do and saves you $65.00.
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We Make a Specialty of
Thoroughbred Poultry and Pet Stock
We are the Southern California Agents for
Cyphers Incubators, Brooders and Ready Mixed Foods
We Carry a General Line of Poultry Supplies
NO OTHER POULTRY SUPPLIES HOUSE

So conveniently located to the Interurban R. Y. System. We are nearly opposite the Pacific Electric Depot and we want to make this the Los Angeles and out of town POULTRYMAN'S HEADQUARTERS.

We have arranged everything for your convenience—the free use of both telephones—when shopping you can have your parcels sent to our address. Anything you don't want to carry around with you, just leave it at Kloningers—we have on file the leading Poultry and Pet Stock papers—our information department on Poultry matters is free.

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Artificial Tooth Cleanser

Dr. Gleason's Artificial Tooth Cleanser keeps the plate smooth and free from tartar, by this means keeping plate in position, is a preservative to the rubber, and gives a natural luster to the teeth. 25c per package or sample sent anywhere for 10c.
Gleason Dental Co., Los Angeles, Cal.

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The great Bible game with cards; amusing, entertaining, instructive to old and young. Great lessons taught in morals and temperance from the leading characters of the Bible. A good Christmas present. 50 cents post paid.
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PRODUCES STRONGER, HEALTHIER CHICKS THAN ANY HEATED BROODER
FULLY GUARANTEED
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WRITE FOR ILLUSTRATED BOOKLET AND DELIVERED PRICES
Coulson Co. GEN. SALES AGTS BOX C. PETALUMA CAL.

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**CREOLIUM is a coal tar preparation and is the greatest germ destroyer and disinfectant known to the poultryman of the present day.**

**It is Anti-Toxin and Non-Poisonous.**

The PACIFIC POULTRY COMPANY has used CREOLIUM and nothing else for years as a spray for the houses and a dip for the fowls, to keep their thousands of birds clean and healthy. What more testimonial or guarantee could you ask?

It is not expensive for in nearly every instance it is diluted to one part CREOLIUM to 50 parts water, sometimes even more.

It is an indispensable remedy for the stable and among the cattle.

PRICES AS FOLLOWS:

Quarts, $1.00 — Gallons $2.50
½ Gallon, $1.50 — 5 Gallons $12.00
Special rates on large quantities.
Mail orders filled promptly, if money accompanies order.

## The Pacific Poultry Co.

**are sole agents in Los Angeles County for this product, and it is for sale at their plant in Inglewood, also at their Los Angeles Office, 416 Chamber of Commerce Bldg.**

Write for literature.

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***Won Clean Sweep Over All Competitors in the Great***

## *San Jose and Oakland Shows*

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**The Gibson Reds** are now conceded to be the best Reds on the Pacific Coast. They are from the best stock in the world.

***A Limited Number of Eggs for Hatching This Season***

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***Niles, California***

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Reliable seeds. Right prices. Send for catalog.
Best place to buy the best POULTRY SUPPLIES.

## 115 W. 7th St. Los Angeles, Cal.

## Single Comb Brown Leghorns

Bright Strain. Pullets and Cockerels for sale $3, $4, and $5 each. Eggs for hatching and incubator chicks in season.

**Mrs. C. H. Vary**
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**Phone 2172**


be your best exhibition females. The cockerels from your dark mating will be your best exhibition males. This is so providing your fowls have been bred along this line, and we believe this the better way to produce the colors now demanded by the Standard. We have tried mating our best exhibition males with our best exhibition females with rather poor results, the males come too light, the pullets too dark for show, so we just gave it up and breed the lines separate now and have for a good many years, with very satisfying results. I cannot go into details on mating in this article as it is already too long. I may sometime in the future give our system. It has proven a success with us and others that have tried it.

We would make out a poor guess as to what the future has in store. We expect great things. The breed is in the best of hands, and it has within itself the characteristics that have so successfully guided it for the past forty years, and that will keep it at the head as the most desirable quality breed for all time to come.

## CONCERNING ARTIFICIAL INCUBATION.

By M. A. Schofield, Proprietor Gardena Hatchery.

YEAR by year our business increases almost in geometric ratio, so that now our associated hatcheries put out more chicks, probably than any other concern in the world. But even so, we approach such a topic with a certain reluctance and hesitation. We feel like giving a little caution and advice only when we read the half digested subject matter offered by those who make a good hatch or two and then hurry to teach their fellow men with gleanings not from long experience but rather from the poultry press. It is the study of a lifetime, wide in its bearing, but we are asked to confine ourselves to the "practice" part and we shall endeavor to stick to our text.

We are not interested financially in any incubator on the market. What we try to get is a maximum number of chicks with the greatest amount of vitality and the following tells a little of how we try to do it.

You will find it pays to select the best eggs for incubation if you have plenty to pick from. Take about one-half, the evenest in size and shape, of good shell and smooth to the touch. They should be kept from evaporation in a clean can or a tight box covered with a heavy cloth. When weather is warm, air at night so as to keep temperature as near 58 or 60 degrees as possible. Supposing your eggs were exposed to dry air for three weeks before placing in the incubator, then the natural evaporation is about as great before your eggs even go into the machine as it should be were fresh eggs run three weeks in the incubator. I mean it will be similar in amount to that of infertile eggs run three weeks in a machine. In dry weather hatching eggs will not stand such a handicap, but in wet weather there is naturally little occasion to prevent evaporation.

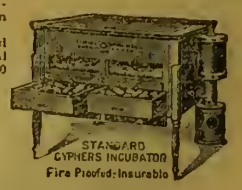
I once placed a dozen eggs on top of an incubator for two weeks and when placed in the machine they tested 100 per cent. strong germs, but it rained nearly every day. When your incubator runs evenly, close all the ventilators you can and put in


## 1030 Chicks From 1047 Eggs

IN three hatches. That's what G. W. Ormsby, of Piermont, Ohio, did with a Standard Cyphers Incubator. He don't claim to be an expert—just a practical, money-making chicken-raiser. But he insists on the best hatcher.

## Cyphers Incubators

are used by more Government Experiment Stations, more leading Agricultural Colleges, more well-known Fanciers and Practical Poultrymen than all other makes combined. Hot-air heat—no tank troubles—a genuine non-moisture Incubator. Self-ventilating. Self-regulating. You can get Cyphers Patented features of superiority in no other machine.




Cyphers Incubators and Brooders are guaranteed to you—you have 90 days—4 hatches to prove their superiority.

Write today for our big, handsome Catalog for 1910, describing Cyphers Incubators, Brooders and Poultry Supplies.

Address Nearest City.

CYPHERS INCUBATOR CO., Department 46,
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## Feed your Chicks Coulson's Special Dry Chick Food

and watch them grow.

Compare it with other chick foods on the market and see the variety of clean wholesome grains and seeds it contains.

Free samples and descriptive booklet on application to

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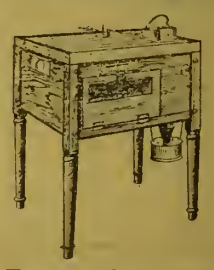
**Germain Seed & Plant Co.** Distributing Agents for Southern California.

## DEFENDER INCUBATORS



will insure successful hatches every time. No. O Incubator, 100 egg capacity costs less than $12.50. Freight paid to your station.

Send for our catalogue it explains why Defender Incubators are best.

**Defender Incubator Co.**
**Dept. D, Livermore, Cal.**

## CROLEY'S High Protein Meat Scrap

Just what the name implies.

**A Meat Scrap High in Protein**

Not tanned nor embalmed and thoroughly digestible.

Manufactured by

**Geo. H. Croley**
**Poultry Supplies**
**631-637 Brannan St. San Francisco. Cal.**
Obtain it from your dealer, or order direct.

## GEESE

***Toulouse*** ***Embden***

Prize winning stock never beaten at any poultry show.

***$1.50 Per Setting***

Fine Toulouse Ganders for sale at $4.00 each.

Send your order at once for the best stock in the west.

## T. B. C. Sielcken

**CALISTOGA, CAL.**

your eggs, flat on the tray, not on end. We don't even fill our machines full but leave a space empty on one end of the tray. Hold the temperature even the first six days if you want a hatch. Run your tested thermometer at 103 to 108½ degrees for 36 hours if you cool twice a day, otherwise one-half degree lower. After 36 hours run one-half degree lower in either case. Small eggs should be run higher than large eggs, brown eggs, than white eggs and also young hen's eggs higher than old hen's eggs. This is owing to the density of the shells. Above all don't neglect the eggs in the beginning—it is the first six days that make the hatch; nearly all crippled legs and toes are made the first week, and most of the chicks dead in the shell are those that never got a fair start. See that temperature is not down in the morning even if you have to get up about 3 o'clock and turn on more blaze. The temperature should stand high in the morning—I am speaking of the first week, the last part makes less difference.

Don't be in a hurry to turn your eggs, but once a day from the start shift the position of the trays and once a day move the outside row of eggs towards the middle. This makes two changes per day. When the eggs are tested the moving in need not be done every day.

I hear one object rather strenuously that he or she does not do all that and yet "good" hatches result. It is demonstrated in our plant that it is possible to get off a hatch week after week for months at a time in 20 days and 12 hours, not varying more than 2 or 3 hours either way. It is possible as shown in our plant to hatch 2500 chicks, the usual output of one of our machines, and have from 3 to 15 leg cripples, depending on the breeds hatched, and if my objector can't do that, he or she has something to learn.

Temperature is everything at first. Keep that steady if you can't do anything else. Except in the hot interior valleys don't let any one confuse you on the moisture question nor fool you into dipping your eggs in some proprietary article to kill germs. There are a lot of confidence men in the world but it does seem that the would-be poultry keeper has more than his share. For the first ten days keep your temperature even, night and day. Cool slightly twice per day and in turning the eggs shift their position on the tray.

Now then, when the allantois begins to nearly cover the inside of the shell the embryo has reached a stage when rapid oxidation is taking place. This is shown by the increased animal heat. Nature has it arranged so that when a hen finds the eggs growing too hot for her comfort she raises her body up slightly to cool them. This is done more and more often as oxidation becomes more rapid, producing more heat in the eggs. From the time the allantois nearly covers the shell, the chick is not at the mercy of high or low moisture tension. Within reason, the healthy embryo regulates evaporation to suit itself. This in our machines so far as the eye can detect the evaporation at a given stage is the same whether it rains every day or whether dry winds blow from the interior. Such being the case, open the ventilators gradually or if your

(Continued on Page 599.)


# Metal Incubators and Brooders

Brooder-Hatcher Doing Double Duty

The demand for a practical, simple and inexpensive Hatcher and a closer study of the principles underlying the natural process of incubation has enabled us, after 20 years of practical experience in incubating and brooding, to place on the market the Cycle Hatcher which has been thoroughly tested out for the past five years and which we believe more closely follows natural methods than any other form of incubator heretofore produced.

All the necessary essentials are provided; a warm nest, a heater to take the place of the hen and the means of supplying a sufficient quantity of fresh air, at the same time retaining the natural moisture contained in the egg and preventing its escape. The heater being circular in shape with the lamp directly in the center insures an even distribution of heated air in all parts of the machine with no corners for dead air spaces.

Eggs to hatch well must be newly laid and where the number produced is small they will not be as fresh when several hundred or more are placed in one incubator as when set more often in separate machines. For this reason we make only one size holding 50 eggs and for large hatches the required number of machines are used, thus by having the eggs in small units they can be more readily controlled and there is never the danger of an entire hatch being ruined.

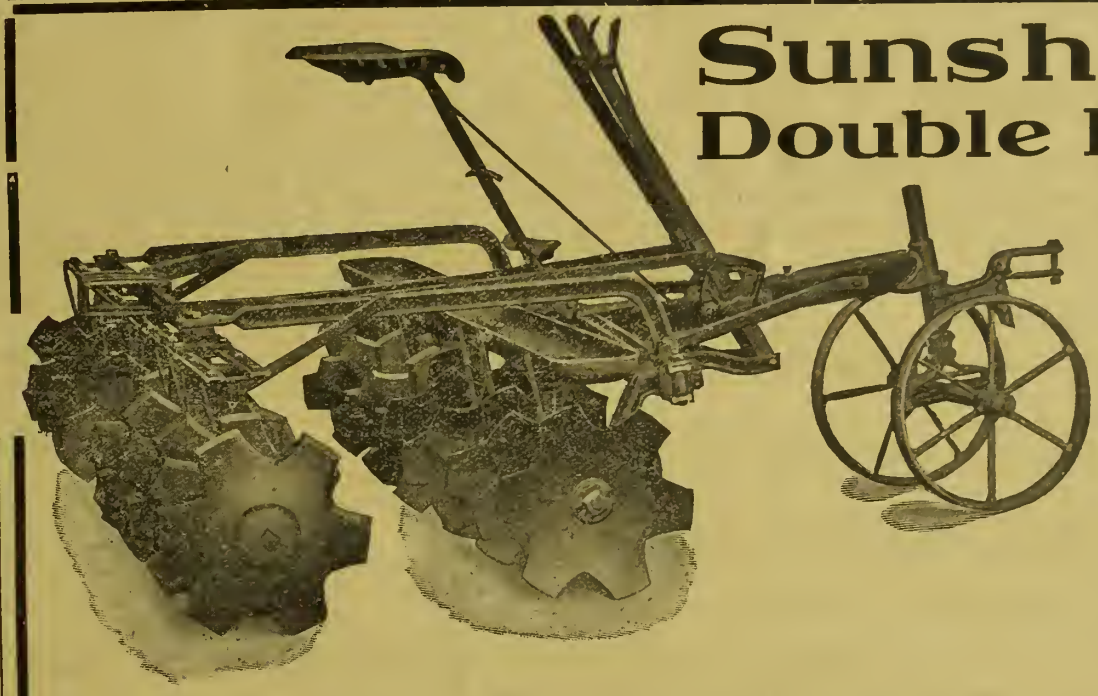
The advantages of a small hatcher are many, as a practical poultry keepers will readily see by a careful consideration of the requirements for successful incubation.

CATALOGUE ON REQUEST

**CYCLE-HATCHER (for hatching only) complete $5.50, two for $10.50**
**BROODER-HATCHER (for hatching and brooding) complete $8.00, two for $15.00,**

**CYCLE HATCHER CO., Western Office, 7 Madison St., Oakland, Cal.**

# Sunshine Double Disc Harrow



Will thoroughly pulverize and cultivate the soil in one operation, and will leave a level surface.

The 'Sunshine' can be changed from a Double to a Single Disc Harrow in a few minutes' time.

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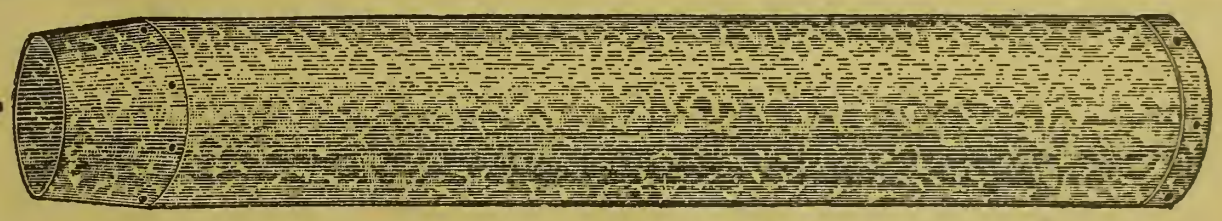

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***SAVES WATER, GRADING AND TIME***

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FORMERLY TALLERDAY MANUFACTURING COMPANY
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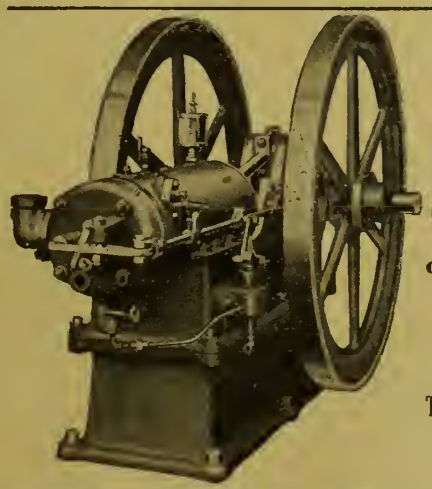

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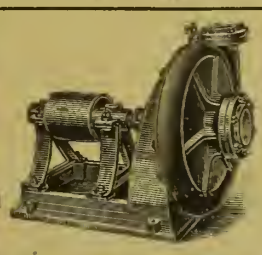
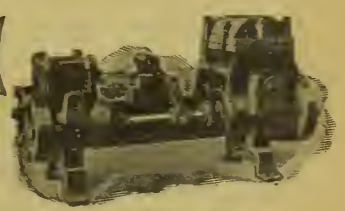


Goulds Centrifugal Pump

Red Cross Wind Mill



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# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, December 9, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

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M. C. Holman, San Francisco Office, 733 Merchants Ex. Bldg.
Fisher Special Agency, Eastern Office 150 Nassau St., New York
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## A Bit of Boasting.

THIS BEING A POULTRY NUMBER, and so "filled with feathers," we doubt not we may be pardoned if a small sized "crow" is allowed to escape. Hence we ask our readers to take a long distance view of this issue of the Cultivator. That is, hold it at arms' length and run through its various pages noticing the amount of original reading matter and especially the invitations of our advertisers to our readers. This issue contains 60 columns of these advertisements and we think we can safely say every one of them is from a reputable and perfectly responsible firm. In fact, the Cultivator will receive advertisements from such firms only. Further than that it may be noted that patent medicine and all liquor advertisements are refused admission to this paper. Offers for this class of advertising are made to the business office every week in the year, and while the money may look good, the fact that the Cultivator is to a large extent a home paper, compels us to refuse all advertisements of a questionable nature. We do not believe a cleaner line of advertising can be shown by any other paper in the country.

It is especially gratifying that this issue contains a greater number of advertisements than have ever before appeared in the Cultivator. If you will count them you will find about 236 advertisements aggregating 818 inches. All these are from reputable advertisers wishing the trade of Cultivator readers. If this proves anything it proves that the advertisers have knowledge of conditions of Cultivator patrons and know their greater capacity to buy.

Space which these advertisements occupy is not by any means lost to the average reader. That is, we mean the valuable features of the Cultivator are not entirely enclosed in the columns devoted to reading matter. Glancing over the advertising pages of a paper filled with the class of announcements contained in the Cultivator is an education to the farmers. It keeps them in touch with the most up-to-date appliances and machinery. But notwithstanding this we endeavor to keep our advertising space in limits, or rather by enlarging the number of pages to keep up a proper average of reading matter. This accounts for our paper at this time having 32 pages instead of 24, which has been our regular issue for several months. From contracts now in hand it appears there will be several months more in which we will issue a 32 page paper.

No other Coast farm paper is giving such service as the Cultivator. This may account for the fact that this issue is the largest in the number of papers sent out which this or any other agricultural weekly of the Coast has never mailed.

Hence this "crow" for which we trust you will pardon us.

## American Breeders' Association.

THE SIXTH ANNUAL MEETING of the American Breeders' Association will be held this year in Omaha, Nebraska, December 8, 9 and 10 at the same time as the National Corn Exposition. This association is not composed entirely of animal breeders by any means, but will discuss in its session the breeding of grains, sorghums, barley, wheat, and cotton, etc. Of course, one day of the discussion will be given to animal breeding besides.

Much has already been achieved by breeders. The magnificent herds and studs scattered over North America are sufficient evidence that our animal breeders have not been idle and that they have builded wisely. The achievements of the breeders of field crops and horticultural plants have provided our modern journals and the daily press with material eagerly sought by a public which appreciates the wizard-like creations of these workers in plastic living forms. The productions of our florists and nurserymen brought forth in response to a popular demand for the artistic and novel, to the student of heredity, are monuments to the skill of the breeder and indicate the stupendous possibilities of similar work with our great economic animals and crops.

## None of Our Business.

AMONGST THE QUESTIONS answered in this week's issue of the Cultivator, Number 4 asks: "Can you give cost of feed per hen per year, also net profit per year?" This was answered with some spirit by Mr. Gregg of Riverside, in effect that it is none of our business as to the profit derived by anyone engaged in other businesses. As he says in his paper: "No one would expect to ask the publisher, the baker or the candlestick maker as to profit derived from his business, but the poultry man seems to be in a class by himself in this respect." In fact we may say that the entire farming class is in the same situation in this particular. Fruit growers are repeatedly importuned by boosters for the community to tell how profitable has been their venture in the production of fruit. They are asked to give itemized statements of the cost of growing an orchard and of the net profit for each year. This is because of the desire to show the world the possibilities of our climate, soil and water, and induce newcomers to locate and produce more wealth. This is a proper and legitimate effort, and yet as Mr. Gregg says, questions are often asked about details of a business which are the concern only of the one who has invested capital time and energy in it.

But fortunately the poultry industry is in little danger of being overdone in California, so we think there will be no probability of the figures given by our contributors this week causing overproduction and a consequent slump in poultry profits. We have asked of the poultry people a question we had no real right to ask, and we thank them for the spirit they have all shown in their answers which are convincing arguments for the advantages of this great industry.

## Frost Prevention.

THERE IS SO MUCH OF POULTRY in this week's paper that it is possible one most valuable article written by Prof. Alex. McAdie of the U. S. Weather Bureau at San Francisco, may be overlooked. This article deals so fully with the principles of frost protection that it will make most interesting reading for those who are raising crops which are affected by sudden fall of temperature.

## Farmers' Institutes for Bee Keepers.

A SERIES of special purpose Farmers' Institutes for Bee Keepers has been arranged for at various points over the State. As far as possible these institutes have been placed in the bee keeping sections of the State, especially where there are organized beekeepers associations to co-operate with. This institute for the central coast counties will be held in the Chamber of Commerce at Monterey on December 14th and 15th. This gathering will be under the auspices of the California Central Coast Bee Keepers Association, and the opening session at 1:30 o'clock on the 14th will be given over to the annual business meeting of that organization, after which the regular program of the University institute will proceed.

On December 17th and 18th jointly with the Northern California Bee Keepers Association there will be an institute held for bee keepers at Pioneer Hall, Seventh Street, between J and K Streets, Sacramento. The annual business session will take place at 10 o'clock in the morning of the 17th and at 1:30 o'clock in the afternoon the institute program proper will begin.

For the beekeeper of the San Joaquin Valley an institute has been arranged for at Tulare on December 20th and 21st, beginning at 10 o'clock of the first day. The local committee in charge of this institute is the executive committee of the Tulare Bee Keepers Association, under whose auspices the institute is being held.

In Southern California where local bee keepers associations are not yet well organized, the University's representative Mr. J. B. Neff, of Anaheim, conductor of Farmers' Institutes for Southern California, has arranged with local committees of representative bee keepers, for two institutes: One in the Ventura district to be held at Santa Paula on December 22nd and 23rd, and the other in the Riverside District to be held in the City Hall at Colton on December 29th and 30th. These two institutes will both begin at 10 o'clock in the morning on their respective dates and will be conducted by Mr. Neff.

All bee keepers are requested to be present at the institute held nearest to their home, and to bring with them samples of honey and wax to contribute to the institute exhibit. Excellent programs have been arranged for and all are requested to take part in the discussions. The following are some of the subjects to be presented:

"Farmers' Institutes and What They are For."
"Honey Yielding Plants and How to Utilize Them."
"Modern Equipment Available for the Bee Keeper."
"Problems in Bee Breeding."
"Improved Methods of Queen Rearing."
"Building Bees up for the Harvest."
"Moving Bees to Increase Returns."
"The Chemistry of Honey."
"The Latest in Bee Diseases."
"The Rendering of Wax."
"The Selection of a Location for an Apiary."
"Bee Disease Control Work."
"An Up-To-Date Apiary."
"Producing Comb Honey."
"The Products of the Apiary—Honey, Wax, Vinegar."
"Marketing Honey."
"Co-operative Marketing."
"Protection from Ants and Other Insects."

# Agricultural News Notes of the Pacific Coast

## Northern California

Large quantities of timber lands have recently been sold near Susanville, Lassen county.

The rain which visited various parts of the Sacramento Valley last week was most welcome.

Tehama county turkey growers shipped from Corning over 1000 pounds of dressed turkeys.

Fair Oaks and Orangevale, Sacramento county, have been shipping oranges to Portland, Oregon.

A company of Easterners has bought 720 acres near Elmira, Solano county, and will plant eucalypts.

Alexander Valley in Sonoma county is reported to have developed a new industry in the "gathering and selling of grasshoppers."

Vallejo, Solano county, proposes to reorganize its chamber of commerce and get it in line with other boosting organizations of the state.

The early fall rains have started the green feed of the northern coast counties so that the outlook for a big output of butter is the best.

District No. 70 in Sutter county has completed its raising of the levees and they are now thought to be entirely safe from the winter's floods.

Modoc county's supply of water from the first of the month storm was such that great damage was done by high waters in all low land sections.

One prune grower at Woodland, Yolo county, estimates that that county has lost three-fourths of its output this season owing to unfavorable weather conditions.

The forestry board of Sacramento county is recommending certain trees for the various streets of the county and proposes to proceed as rapidly as possible in uniform planting.

Orange trees at Redding have been found by the horticultural commissioner to be infested with mealy bugs. A hot fight is promised to endeavor to rid the trees of them entirely.

Fruit shipments from Vacaville for 1909 total 1022 cars. The last car was shipped about the end of November. This shipment was never exceeded except for the year 1903 when the shipment was 1143 cars.

The Truckee lumber company is planning to build immense mills at Oroville for manufacturing. It is now running a railroad line into the vast timber holdings of the company.

The Butte county olive harvest is proving to be an exceptionally large crop of choice fruit. One plant at Oroville is turning out 4000 gallons of pickles daily and is still behind with orders.

The supervisors of Nevada county have appointed Newton Peck to be the first county horticultural commissioner under the new law. He is the first horticultural commissioner ever named in that country.

Sacramento county has a forestry board which is making suggestions for plans of planting trees along the roadsides. One suggestion is that the camellia, while only a shrub, shall be a leading factor in all Sacramento Valley ornamentation.

## Central California

It is estimated there are about 25,000 tons of raisins yet to ship.

The Tulare County Citrus Fair held at Dinuba last week was a complete success.

The new weir at the head of Last Chance ditch near Hanford has been completed.

Elias Gallup of Tulare, is breeding some of the old fashioned rose comb Dominiques.

The recent creamery operators' convention at Porterville elected C. C. Richway, president and J. H. Severin, secretary.

Inspection by careful entomologists of the orchards near Porterville has failed to bring to light any case of orange thrips.

Raisin producers representing over 4800 tons of muscats recently met in Fresno and decided to hold for a minimum of three cents.

P. J. Dreher, secretary of the San Antonio Fruit Exchange, at Pomona, is planting 80 acres of oranges near Porterville, Tulare county.

Tulare county oranges have been running larger size than usual and have been accepted in Eastern markets at very satisfactory prices.

Stanislaus county has shipped a fine display of raisins, walnuts, pecans, almonds, and other productions to the Corn Exhibit at Omaha.

Beekeepers of Tulare county will hold a farmers institute in Tulare under the University of California direction December 20th and 21st.

The raisin situation is said to be improving constantly and the consolidated packers are asserted to have withdrawn the eastern "cut rates."

The quarterly meeting of the Kingsburg Beekeepers' Association met this week at Hanford, Kings county. Foul brood was the principal topic of discussion.

First shipments of oranges from Porterville section netted $2.10 f.o.b.

Fruit packers at Gilroy report over 2000 tons of dried fruit for that section this season.

One stock owner at Hanford has been arrested and fined for not killing a horse which he had been ordered to kill by the state veterinarian because of glanders.

Many buyers have been approaching raisin growers with a contract to take their raisins for three years for three cents a pound, this to cover the years 1910, 1911 and 1912.

Orange growers of Tulare county have formed a co-operative company to develop more power along the Tule river. This is now termed the "busiest" river in California.

A special agent of the United States Bureau of Labor Statistics is studying the situation with regard to employment of orientals. The work at present is in Tulare county.

There is a project on hand at Sanger, Fresno county, to build a million dollar dam at Pine Flat twenty miles east. If carried out, it will reclaim thousands of acres of acres of farm land.

## Southern California

Ventura county is having trouble with cattle thieves.

Anaheim, Orange county, shipped its first car of oranges November 28.

The cotton gin at El Centro is handling about five bales of cotton daily.

San Bernardino county produced last year about 300,000 pounds of honey.

The walnut output of Saticoy, Ventura county, amounted to about 63 carloads which was the largest output ever.

The cool weather all over Southern California last week has hastened the coloring of fruit.

Farmers in the Coachella Valley are now considering the production of cotton in that section.

Anaheim, Orange county, hopes to have a $40,000 flouring mill established in the near future.

El Centro is holding a county fair this week at which the principal day will be called Cotton Day.

At the farmers institute held at Coachella on Monday exhibits of fruits and other farm products were made.

Celery shipments from Orange county have been rather slow owing to limited quantity of well bleached stock on hand.

The U. S. land office at Los Angeles has received instructions to suspend all applications to enter land in Imperial Valley.

Twenty tons of iron are required for the pipe which is to be used in constructing the flume across the Alamo river in Imperial county.

There seems to be a general lethargy in cantaloupe planting in Imperial Valley and it is now thought the next season's acreage will be the lightest in years.

Fullerton has shipped practically all of its walnut output for this year, which is about 90 cars, or practically twenty-five per cent short of the average crop.

Lemon growers who have not joined with the Citrus Protective League to secure the reduced freight rate, are compelled to pay the old rate of $1.15.

The bee men of San Bernardino have taken the first step toward forming an organization for better protection of the industry, the work of which is expected to be completed at the bee keeper's institute to be held at Colton December 28 and 29.

G. Harold Powell and his assistants who have been investigating the decay of lemons in transit, have determined that the only remedy is more careful handling of the fruit in picking, packing and shipping. These experts will soon go to Florida.

The Santiago Orange Growers' Association at Orange, Orange county, held its annual meeting last week at which the following directors were elected for the coming year: D. F. Campbell, S. J. Beals, J. A. Maag, A. H. Stutsman, Jay W. Powers, W. H. Burnham.

## The Coast

Dairymen near Yuma, Arizona, are shipping cream to the Imperial Creamery.

Wenatchee, Washington, has shipped over 100,000 boxes of apples this season.

Yuma Heights, Arizona, is now marketing some exceptionally fine grape fruit.

Ninety per cent of the prune crop of the Salem, Oregon, district has been marketed.

A single Hood River apple shipped to Cincinnati and sold at a church fair netted $3.75.

The college of agriculture of Idaho is holding a series of farmers institutes this week.

Spokane wheat growers are holding their grain rather than sell at one dollar per bushel.

Farmers at Appledale, Washington, held a barbecue and dinner on Thanksgiving Day.

There is great demand for bluestem wheat on the part of Oregon and Washington millers.

Over 6000 bales of hops were purchased about the first of the month in Portland for export.

Ungathered apples were badly damaged by early frosts in Eastern Washington and in Idaho.

Offers of $1.03 are made for wheat at Walla Walla, Washington, with few producers accepting.

Chelan county, Washington, took 58 per cent of the awards at the National Apple Show at Spokane.

The state highway commission of Washington are suggesting a chain of state roads to various parts of the state.

The Inland Registered Stock Breeders' Association held its annual convention at Moscow, Idaho, December 3rd and 4th.

The sugar factory at Waverley, Washington, finishes its run this week with an output of about 70 carloads of sugar.

The entire Northwest was visited last week by storms and floods which did great damage in nearly all agricultural sections.

One apple grower at Elgin, Oregon, is experimenting with planting apple trees amongst the stumps on land from which the timber has been removed.

The turkey market at Portland was completely cleaned up this year so that the usual Thanksgiving eve auction was not held because of no stock.

A recently completed irrigation scheme at Two Rivers, Washington, will carry the water two miles from the river and irrigate several hundred acres.

It is said that the Senate Irrigation Commission during its visit at Phoenix, Arizona, stated that if the effort were made to amend the Irrigation Act so as to extend the time of payment for irrigation improvements under the Reclamation Act, that they feared Eastern senators would combine and repeal the entire act.

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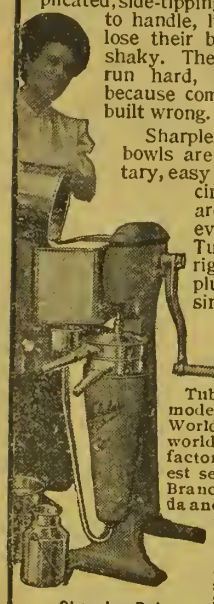

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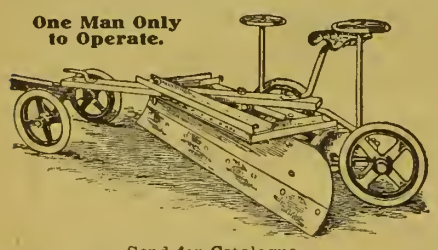

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# Live Stock and Dairy

Dairymen and stookmen are requested to write of their experience. Mrs. Sherman is always willing to answer querles and this, with experience of other workers, will make this department of greater value.

## ALFALFA.

By Mrs. M. E. Sherman.

THE past two weeks of Farmers Institutes has brought to mind a convincing evidence that the people of the great valley are more interested in alfalfa than in any other one subject placed on the programs. The questions in the box and the discussion on the floor kept drifting back to alfalfa. The director had to call the people back to the subject in hand, of hens, of good roads, spraying and fruit trees. The questions will not down, for here on my desk are letters asking from one to many questions on the same subject of alfalfa. One man says he did not think the Institute worth attending but wants now a letter at least as long as this article to answer his questions. I replied to him that the Institute at Kerman would be near enough for him to attend. While one may be ever so willing it is hardly fair to ask the Institute instructors to go over their work in personal letters.

### History.

What a long historical time many of the common plants have lived through! It seems all right to think of the giant trees as having been on this earth for long periods but when it comes to the alfalfa plant it seems more wonderful that it was never destroyed or lost to the world. The Bible says there is nothing new under the sun and the truth grows upon us as we study these small plants. The same animals, the same plants, the same joys and the same sorrows have filled the world from earliest times. Yet there are people who presume to think themselves of superior clay to the rest of the human family. The simple little alfalfa plant has a pedigree longer than the human race. The alfalfa plant goes back to the beginning of agriculture. It is older than the Pharoah whose mummified remains are now in New York, worth $300,00 as a mummy but useless except as a museum freak, an illustration of the folly of the idea of gaining immortality by preserving the flesh. The Pharaohs might all be lost and the world no poorer but if the seed of the alfalfa plant was destroyed how great would be the loss! The best things in life are the everyday things that belong not to the kings but to the common people.

### Horticulture in Early Days.

Persia was the first home of advanced agriculture. From her came the alfalfa plants and also many fruits. We have improved but little on the apricots, peaches, nectarines and alfalfa of the people while we have not improved at all on the peacocks, cats and rugs. Xerxes and his Ten Thousand are said to have brought the first alfalfa into Greece where it grew perfectly and was of value as a fodder plant. Rome conquered Greece and bore away with the many captives and ancient sculpture the seeds of the alfalfa plant. Rome conquered the known world and carried alfalfa as food for the war horses. The immortal Ceasar wrapped up in his war raids carried the seeds of peace and prosperity in the alfalfa plant to conquered countries. Ceasar passed on but alfalfa lived in Spain to be carried by the adventurers of Spain into South and Central America, into Mexico and later into California. I like to think of the Spanish soldiers bringing a few alfalfa seeds and planting a tiny plot for company in far away California when they were homesick for the everyday life of old Spain. Human heart aches and human joys are wrapped closely around the stories of these common things. The tiny alfalfa plant may well have been on earth and been blessed when the Creator of all things looked over the green fresh earth and pronounced it "Good."

### Regional Plants.

Plants change or acquire new habits in different lands and climates. Alfalfa has not been a successful growth in soil that lacks in lime nor is it very successful in cool moist countries. It grows best in dryer climates and requires considerable heat to reach its best growth. Plants like people when they travel become cultured and acquire adaptility to accept changes readily. Once the greatness of the alfalfa plant was recognized the great agricultural nations, of which the United States is one, have taken up the search for new regional varieties. One man has spent many years in Russia alone looking for frost resisting varieties. The common alfalfa of California came to us from Chile by the way of Spain, South America, Mexico, into Southern California. This is the common alfalfa of our field today. It is capable of great improvement as it has been allowed to grow less productive by not selecting the best plants as seed bearers.

### Arabian Alfalfa.

This plant is now only procurable in small lots. There were about five tons of seeds offered in the markets and this is far to little to make much showing in this season's planting. There are several varieties of Arabian offered by the Experimental Station in small packages under different numbers. I planted several of these small packages last spring but owing to unfavorable conditions of the season was not very successful in securing a good stand. The Arabian alfalfa will grow at a lower temperature than other varieties and produces one more cutting a year. It has a dense leafy growth and a heavy but tender succulent stem. With the great advantage of nearly twice as great a growth in the winter as the Chilean and a half more than the Turkestan, it has the disadvantage of having a much shorter life term, two, three to five years being about its duration in the land. This may prove an advantage in bringing alfal-


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fa in as a profitable cover crop in young orchards. The principal objection to the use of alfalfa in orchards has been the labor and difficulty of getting rid of it when it became necessary to plow it under. The deep plowing cut the roots of the young trees badly. It would also make it easier to use alfalfa as a rotation crop if it was not so lasting in its growth.

**Turkestan Alfalfa.**

This is coarser and more woody in its growth than the Chilean type. It will grow and produce a good heavy crop on a minimum of water and also stands cold better than the other forms. The Arabian will not stand the same amount of cold back in Colorado that the Chilean bears easily. The crop of the Turkestan is heavier than the older form. These new alfalfas have the advantage of seed selections—as a Government man would not get the seed from a run out field but would select the best plot possible. The great good

Prize Cups Won in Butter Contest During the Past Year.

then from the Turkestan alfalfa is to be found in its drought resisting qualities. It will give a profit on less water than the common Chilean forms.

The common or Chilean alfalfa seed will naturally be sown largely this season as the seeds of the newer varieties are still scarce though there was a fairly liberal supply of Turkestan seed to be had earlier in the season. I believe these two new varieties are valuable but I also know that the yield of the common alfalfa can be greatly increased by using care and judgment in handling it rightly.—M. E. Sherman.

## EDUCATIONAL BUTTER SCORING CONTEST.

A considerable improvement was noted in the quality of the butter in this contest over that of the previous entry. Of the nineteen entries, all but one were made with a starter and in four instances the cream was pasteurized. This is a remarkable change from the first entries where so few were made from cream ripened with a starter. All of the butter in this entry was made from gathered cream, except in four instances; in two of them, however, the amount of milk used was too small to mention. The method blanks show that more and more care is being exercised in preparing and using starter, and in the temperatures used for churning. Still, some of the makers are careless about filling out their method blanks. It is impossible to make useful criticisms without a record of the way the butter was made. In the long run it will pay to have a good starter can, rather than try to get along with a makeshift.

The scores were as follows:

| | Score |
|---|---|
| Pioneer Creamery, Ferndale | 96 |
| Castroville Creamery, Castroville | 95½ |
| Golden Creamery, Etna Mills | 95 |
| Meridian Creamery, Meridian | 94¾ |
| San Pasqual Cream., Escondido | 94½ |
| Suisun Creamery, Suisun | 94½ |
| Univ. Farm Cry., (Not comptg. | 94 |
| Fresno Cream Company, Fresno | 93½ |
| Ceres Creamery, Ceres | 93½ |
| United Creameries, Arcata | 93½ |
| Salinas Creamery, Salinas | 93 |
| Rose City Cream., Chico | 92½ |
| Hicks Valley Cream., Hicks Val. | 92 |
| Crystal Cream & Butter Co., Sacramento | 91 |
| Laton Co-operative Cry, Laton | 90½ |

The next year's contest begins in January, 1910, and a large number of buttermakers will probably compete for the prizes offered.

The prize cups for the year's contest just closed were awarded to:

| | Ave. Score. |
|---|---|
| 1st. H. Ostergard, Etna Mills | 94.5 |
| 2nd, J. D. Bailey, Gridley | 93.88 |

**Certificate of Merit.**

| | |
|---|---|
| H. Ostergard, Etna Mills | 94.5 |
| J. D. Bailey, Gridley | 93.88 |
| V. F. Will, Escondido | 93.29 |
| V. Baciarini, Suisun | 92.58 |
| A. L. Bailey, Chico | 92.16 |
| J. C. Bentley, Sacramento | 92. |

The prize cups went to those having the highest and second highest average score for the six contests during the year. The Certificates of Merit were awarded to those having an average score of at least 92 for the six contests.

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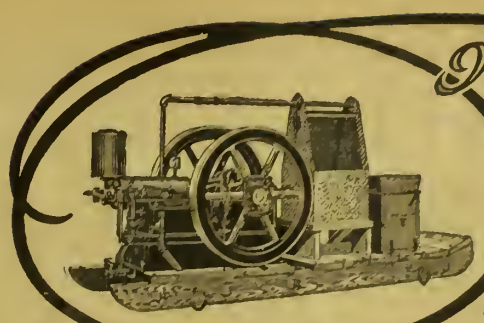
Every time you abuse and frighten a cow, you throw her milk and butter machinery out of gear.

The value of a cow should be fixed by the amount of fat there is in her milk, and what it costs to produce it.

The udder should be carefully cleaned before commencing to milk and the last drop of milk should be drawn from the udder.

Heavy milkers are often rough boned cows with large frames, but joints and ill shapes are not essential in the make-up of a good cow.

To allow a certain quantity of food to each cow in the herd alike may result in an insufficient quantity for some and too much food for others.

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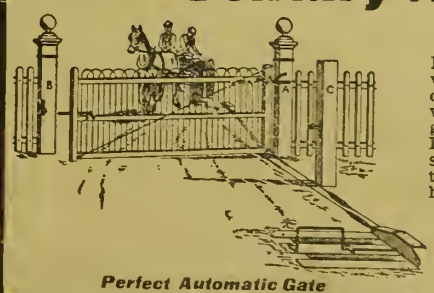

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# The Tulare County Citrus Fair at Dinuba

By R. M. Teague

FOR the past six or seven years it has been my pleasure to make periodical trips through the Central Citrus Belt of California; (which finds its highest development in Tulare county) for the past three years have also heen an admiring visitor to the annual citrus fair, which has become an estahlished institution of that region. I recite these facts to give emphasis to the surprising development in citrus culture that I have heen a witness to. Every visit only confirms my first convictions, viz., that the time is not many years in the future when the output of the kingly orange and the queenly lemon in the San Joaquin valley will run the Southern belt an interesting race. New plantings are constantly going on, as is witnessed by the fact that nearly one-half of the citrus nursery stock being marketed this season finds an outlet in this valley.

The Citrus Fair was held this year at Dinuba, in the northern section of the county close in to the Fresno county line. Here citrus culture has not attained the importance that it has in the older settlements of Exeter, Lindsay and Porterville. But it is winning its spurs even further north. The fine showing of fruit from Reedley and Mt. Campbell gave strong evidence of that fact. While in Dinuha I visited a young grove of ahout 80 acres owned hy F. H. Wilson, situated at the base of the foothills some seven miles northeast of the town. The trees showed no evidence of frosts, were well developed, and gave every promise of "making good." There are scattered orchards throughout this region and also in Fresno county, all of which go to prove that citrus fruit culture will cover a wider geographical area in this state than was deemed possihle only a few years ago.

It has been said that an orange tree will stand more neglect than most any other fruit, which is true. As I become more thoroughly familiar with its environment and condition in various portions of the state, I am surprised to learn of its adaptahility to varying conditions of soil. In Tulare county we have the clay soils, both black and red; the dry hog soils; the adobe and alluvial bottom soils, all of which seem to suit the orange and the lemon. In texture these vary greatly; in and ahout Reedley and Mt. Campbell it is a chocolate color, and is known locally by that name; further south it seems to veer toward a reddish and hlack color. In the south we "hank" on the decomposed granite soils, the sandy and gravelly soils, the red mesa lands and tne sandy loams. But your orange seems to thrive equally well in hoth sections. So it is not wholly soil, but water, care, climate and soil combined that makes the premium fruit.

But to return to our "Mutton" and the Cltrus Fair proper. In arrangement it much resembled the Citrus Fairs of the south of twenty years ago. The Dinuha people showed enterprise and "go" in erecting a temporary huilding of large dimensions in which to pull off the event. The report of the judges more fully covers the character and quality of the fruit displayed, which is as follows:

Dinuba, Calif., Decemher 4, 1909.

To the Officers and Directors of the Tulare County Citrus Fair Association:

Gentlemen:—

We your Judges of the Citrus Fruits at your first Citrus Fair in this city desire first to commend the fine display you have gathered, not only as to the quality shown and the striking manner in which it was exhihited; but also as to its superb quality. Naturally enough, here and there a specimen suffered from the fact that it was not wholly matured nor fully ripe. Something might he said as to the fact that in some cases the specimens suhmitted for competition were faulty in shape, showing damaged peel, and other hlemishes, all of which militated against it as premium-winning fruit. These little drawbacks call attention to the importance in careful selection of specimens when the same is to compete against the field.

To the beginner in citrus culture the mere outward appearance of the fruit often is the only test hy which comparative judging is done; hut in its last analysis the real test is its eating quality. In this connection it may be of interest to give in hrief the system wherehy the survival of the fittest is arrived at in the judging of oranges and lemons. To do this we establish a scale, the perfect specimens representing 100 points—divided as follows:

For oranges we have 10 points for size; 5 for form; 10 for color of peel and flesh; 10 for weight; 10 for peel; 6 for fiher; 6 for grain; 4 for seeds; 30 for taste. For the lemon a similar scale is used varying of course, in the several divisions. By this system the single entries were carefully gone over, each fruit was cut in halves and carefully tested out, the result being as follows:

WASHINGTON NAVEL ORANGES.

E. A. Miller, Globe, First.
A. G. Schulz, Porterville, Second.
T. R. Evans, Exeter, Third.
H. C. Carr, Porterville, Fourth.
V. D. Knupp, Porterville, Fifth.

LEMONS.

Mrs. F. W. Mixter, Exeter, First.
Wm. Harmon, Porterville, Second.
Mr. Tout, Lindsay, Thlrd.

LIMES.

W. R. Wood, Exeter, First.

THOMSON'S IMPROVED NAVEL.

Mr. Graham, Lindsay, First.
C. A. Hotchkiss, Exeter, Second.

MEDITTERRANEAN SWEETS.

C. J. Carle, Lindsay, First.

A PRINCELY CITRUS GROVE AND HOME IN CENTRAL CALIFORNIA.

POMELO.

W. O. Randolph, Exeter, First.
W. R. Wood, Exeter, Second.
J. M. McCormick, Orosi, Third.

SEEDLING ORANGES.

Walter Madden, Orosi, First.

TANGERINES.

Capt. Hutchinson, Lindsay, First.

On the best display of Citrus Fruits made hy an individual grower, H. C. Carr of Porterville, First; Martin and Dudley, Orange Heights, Second.

In making the awards for locality display your Judges based their conclusions on a scale of 100 points as follows: Fifty points for quality and quantity of fruit; 25 on plants and greenery decorations; 15 on bunting and electrical effects, and 10 on design.

On this hasis the awards resulted as follows:

Exeter, First; Lindsay, Second; Porterville, Third; Orosi, Fourth; (Highly commended for its magnificent diversified exhihit of soil products), and Visalia Fifth (commended.) We understand that the latter two were not entered in the competitive classes, nevertheless, on grounds of quality, originality of display, we recommend that you give these two exhibits recognition.

Special commendation is also due the excellent locality exhihits of Reedley, Mount Camphell and Orange Heights.

In fruits other than citrus the few awards were as follows: Best display of olives, W. A. Bates, Dinuha, First; T. Jacob, Visalia, Second. Best display of grapes, W. A. Bates, Dinuba, First; Henry Snodgrass, Exeter, Second; L. A. Camphell, Monson, Third.

Among the minor exhibits the showing of mountain apples, embracing some four varieties, was exceptionally fine, the fruit heing well colored, good size, solid, and of a sprightly acidulous flavor; on the ground of quality, it certainly merits warm commendation.

The Calwa Distrihuting Company's showing of unfermented grape juice, elegantly hottled, was also a noticeahle feature which can be highly commended.

The collection of ornamental house plants consistlng of ferns, palms, begonias, and a line of cut flowers evinced the right spirit on the part of the ladies of Dinuha.

Mention must also be made of the superh showing of orchard and vineyard products made into jams, jellies, marmalades, etc.; all of which evinces a due respect for the science of domestic economy on the part of the good housewife.

In conclusion, we desire to commend the superh display of fresh, canned and dried fruit, olive oil and pickle olives, garden and field crops, exhihited by the enterprising growers of the Dinuha district, and especially the excellent displays of Emperor grapes,—among the finest it has heen our pleasure to see. This exhibit includes the superh showing of dried fruit and raisins, and canned fruits in glasses and tin made hy the Griffin-Skelley Company. Another feature of like nature was the exhihition made hy the California Dried Fruit Agency, which attracted much attention.

All of which is respectfully suhmitted.

R. M. TEAGUE,
C. D. HUBBARD,
H. W. GRUCKERBERG,
Judges.

If coming events cast their shadows before, the next fair will be appropriately held at Visalia. To be sure it is not situated in the orange section of the county, but it is its largest and oldest town, full of the early activities of the Central San Joaquin valley, and typical of the state's material development and civilization. For these reasons alone it is a happy selection, and I predict "big things" for the industry when the Fair of 1910 shall become a tangible fact at that point.

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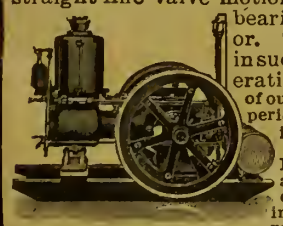

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# Deciduous Fruit Culture

## THE ALMOND COMMERCIALLY CONSIDERED.

By J. P. Dargitz, Acampo, Cal.

Read before the State Fruit Growers' Convention at Watsonville, December 8th, 1909.

"Take of the best fruits in the land: balm, spices, myrrh and almonds."
Gen., 43:11.

"Moreover the word of the Lord came unto me, saying, Jeremiah, what seest thou? And I said, I see a rod of an almond tree. Then said the Lord unto me, Thou hast well seen,"
Jer. 1:11.

THE ALMOND is by no means a new nut, and perhaps justifies the old saying "there is nothing new under the sun." More than four thousand years ago Jacob made use of it in his efforts to achieve commercial success, though in a different way from that which we have in mind today. Later in his life the same Jacob, chastened by his experiences, classed the almond as among the choicest fruits in the land. We are not told whether it was a hard-shell or a papershell, a Nonpareil or a Texas Prolific.

It was from an almond tree that Moses cut the rod which became a serpent when he cast it down. May we get a lesson from this to the effect that we should not look with indifference on this nut-bearing tree whose beautiful blossoms furnished the Divine pattern for the bowls of the candlestick in the Jewish Tabernacle? The prophet Jeremiah was also commended by the Lord of Heaven and Earth for seeing a rod of an almond tree.

The bringing of almond trees from Europe to California as early as 1853 had about as much religious significance as anything else brought here in that early day. It was discovered that even "Sunny California" would not produce almonds in every nook and corner. This, like most of our horticultural successes, came about by lessons of bitter experience, whenever we have proceeded without due consideration. However, we have learned, little by little, until the almond crop of this state now aggregates over half a million dollars annually, and there is no good reason in the world why it should not equal three million dollars, as the people of the United States consumes that quantity now. That the consumption of this excellent nut is increasing in the United States is shown by the fact that while in 1907 the consumption was 7900 tons, in 1908 it was 11,200 tons, a clear gain of over 40 per cent. in one year. When it is understood that over 75 per cent. of this consumption is imported from Europe, and that the area for the home production of this nut is practically limited to California and a very small portion of the state at that, we will hardly need to think of overproduction for a lifetime at least. In fact I doubt if we will ever be able to keep up with the growing consumption. Therefore, in view of the viticultural situation and the great influx of population and development of our resources, is it not worth while to look seriously into the commercial possibilities of the almond?

The almond is such an early bloomer, such a shy bearer in some varieties and locations, and such a "sensitive plant" with regard to bearing, that I would emphatically advise all who anticipate starting in almond production to gain all possible information from the experiences of the past and especially as to the behavior of the various varieties in the locality which you have under consideration. If there has been no proving in such locality, then get all your information and begin slowly and prove the varieties for yourself. Of course if you plant an almond orchard and it does not prove a success your effort has not been entirely lost for you can profitably work your trees over to other varieties of fruits. You can change varieties of the almond by grafting or budding, or you can work plums and prunes on them very profitably. The writer's brand of sugar and giant prunes, which has won high standing among the trade in the East, has been achieved with fruit grown on almond trees worked over to prunes after they were fifteen years old. In this connection I would especially advise the reading of E. J. Wickson's book, "California Fruits and How to Grow them." In this you will find very much that is helpful in getting your starting points.

### Climate.

In the matter of climate you must consider both frosts and a tendency to continued wet weather at blooming time. I am satisfied that crops are as often lost by wet weather during blooming time as by frost. It takes sunny weather in blooming time to ripen pollen. Note the odor of honey and perfume in the orchard when the trees are in bloom, if it is sunny, as against the lack of such evidence on a cloudy or rainy day. Moderate frosts in winter while trees are dormant, or even when they begin blooming, do not always presage damage. But there should be no late spring frosts. Bear in mind that the almond is the earliest bloomer of all our fruits.

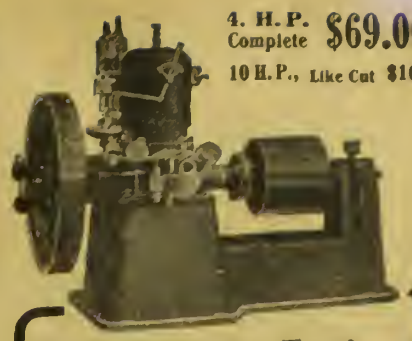
### Location.

A sheltered location where there is a ravine, or some lower ground close by, which may draw off the cold air after night, in a usually frostless situation should be ideal. The crop does well even in low altitudes, (our orchards being only 75 feet above sea level), while there are some young orchards on Paradise Ridge in Butte county on an elevation of 1700 feet which are doing well. They have a deep ravine on either side of the Ridge which draws off the cold air so that ripe strawberries may be picked from the field at Christmas time.

Portions of Butte, Colusa, Lake, Yolo, Solano, San Joaquin, Contra Costa and Sutter counties have been proven for almond growing.

### Soils.

The almond likes a deep, rich, sandy loam soil. It should be deep and well drained because this tree will not endure wet feet much better than the peach. The soil should be rich for the tree is a ravenous feeder. It must have plenty of soil moisture as it is the earliest to begin work in the spring and the last to take its annual vacation in the autumn; and to make good strong fruit buds for the succeeding year the

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tree should hold its leaves well into November. It cannot do this without good moisture conditions continuously throughout the season.

**Varieties.**

Perhaps there is no point in the whole proceeding wherein greater care is necessary than in the proper selection of varieties. Everything else may be very good but if you have the wrong variety you will likely wait in vain for your commercial success. It is utterly impossible to give the one best variety for all sections, because it is not at all likely that any one variety will do equally well in all localities. If you are greatly in doubt get some budding sticks of the variety you are considering and bud them on one of the proper trees in your neighborhood. In two years, certainly in three years, you will have the beginning of your proof. However, no one should emphasize the qualities of any nut or fruit by one or two years proving. It should require ten or a dozen years proving before speaking out with authority. If this plan were generally followed we should not have so many disappointed orchardists. Usually when a man finds a new fruit which has extraordinary quality he forthwith begins to herald it and people begin to plant, yet it might be such a shy bearer or poor keeper as to prove a commercial failure, no matter how excellent the fruit might be.

The original almond was no doubt a hardshell. In fact we know of nothing like the papershell nut until in recent years, and I doubt if one in five of the population of the United States even now have ever seen a papershell almond. Whenever any animal or vegetable product is bred very highly for quality, it is apt to be lacking in quantity when it comes to reproduction or propagation. So with the almond. The papershell is largely deficient in pollen. So sure am I of this that I would not think of planting a block with all papershells no matter how much the varieties might be mixed. It has been customary to plant an occasional seedling or bitter almond in the orchard so as to furnish the necessary pollen; but we now have varieties of the sweet softshell which answer the requirement and are profitable.

My first and great reliance is on the Texas Prolific. I am planting it solid and am also alternating it with other varieties, for the benefit of the other varieties, however. It blooms later by two weeks than any other variety that I know of, tree grows well and bears every year. Trees now 20 years old have borne 17 consecutive crops. I would also plant Nonpareil and Drake's Seedling, alternating either variety with Texas Prolific every two rows. It is easier harvesting if two rows of a kind are planted together. The Nonpareil ripens early and can be gathered before the other varieties are ready. Then comes the Drake's Seedling about three weeks later. The Texas Prolific comes along about two weeks later than the Drakes, all of which is a great advantage if you have a large acreage. These are the three proven successful commercial varieties in our locality. Whether they will do so in your locality I can't say, but on general principles they should, and are worthy a trial. In Yolo county the Peerless is a great favorite. In some localities the I.X.L. is said to be a good bearer. If so it is a good nut to plant there, because it is a good nut and will not meet with much competition from other localities.

**Planting.**

Secure the best trees you can get. It is poor policy to plant an inferior tree because it is cheap. There is great opportunity for some one to become a benefactor of mankind by developing superior strains of the best varieties of nuts as well as other kinds of fruits. It is a fact that there are some trees in every orchard no matter what the parentage, which grow better and bear better than others growing by their side and of the same parentage. I am sure that this will be found to be true in fruit trees as it is in the animal kingdom, yet how utterly indifferent we have all been on this great point which means so much on the commercial side of our work! In good soils where the growth of the tree will be vigorous 25 x 25 feet is plenty close to plant. When the trees are twenty years old their branches will touch and they will need room for twenty or thirty years more.

**Pruning.**

The first three years you will need to shape your tree. After that you will only need to remove water sprouts and an occasional cross limb, until your trees get very large, when you will need to cut out some of the big wood and open up the trees. Mr. Adams my neighbor, says "Prune so a bird can fly through the tree," and he is about right. The tree requires much less pruning than a peach tree. With the peach tree we prune to lessen the pieces of fruit but with the almond tree we want to increase the pieces in number. I never knew of any one having to thin a crop of almonds although in 1908 we did have some limbs as large as my arm break with their load of fruit.

**Spraying.**

You will need to spray your almond trees sooner or later. You may have to fight the fungous growths. If so then you will find a friend in some form of lime, sulphur or bluestone. You may have to fight red spider; then sulphur is a good remedy. It may be you will have to fight the peach moth larvae; then some form of the arsenicals. In the writer's judgment you can just as well use your materials dry as wet. I have used the dry or dust spray exclusively for three years and am quite well satisfied with results. The great difference is on the commercial side of the expense account. The method we use is as follows: In December we spray with lime, sulphur and powdered bluestone, (Sal Bordeaux). We use 40 pounds of lime, 5 pounds of sulphur, and 2 pounds of Sal Bordeaux. This makes a very good treatment for two acres. When the trees are in full bloom we spray again with the same mixture and add to it 2 pounds of Paris Green or 2 pounds of Arsenite of Lime. If there is evidence of the peach moth larvae at work in the buds later, we spray again the last of May so as to catch the second brood, using the same formula as in the previous spraying, though the Sal Bordeaux may be cut down one-half or omitted entirely if there is no evidence of fungus about the trees. If red spider makes its appearance, then a treatment of the sulphur alone will settle Mr. Spider and turn the foliage from yellow to green in three days time if you do not wait too long before spraying. In applying this dust spray we use a power machine which is quite inexpensive, mounted on a wagon and driven by a two horse power engine, the whole outfit weighing only about 1000 pounds drawn by two horses and operated by two men who

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Pruning in the peach orchards is being pushed as rapidly as possible so as to make way for spraying for blight.

readily treat forty acres per day. The amount of material seems small to be effective, but being applied as a mixture instead of a chemical solution, as in the wet spray, it is every bit active. The principal thing, however, is to spray if needed and if you don't want to use your application dry, use it wet, but be sure and use it.

### Cultivation.

None of our orchard trees yield quicker or more decisively to good cultivation than the almond and the principle involved seems to be to maintain a sufficient degree of moisture. We are trying an experiment on a block of fifty acres of old almond trees, having seeded it to alfalfa last April. We shall water this as often as necessary but cut no hay, allowing it to grow and fall on the ground as a mulch. If the trees do not bear with this treatment I will have added to the soil anyway. When our orchard trees get to be over fifteen years old they will require irrigation where they got along very well before with good cultivation. Of couse I am speaking of conditions in our locality where the soil is deep and retentive of moisture under good cultivation but without any subirrigation or summer rains.

### Harvesting.

Presuming that we have secured a crop and that it is time to gather it, we now come to the matter of harvesting which is no small item in a comercial proposition. I am told that about fifteen years ago a company in our neighborhood who had about one hundred tons of a crop to harvest and having no machinery, advertised in the San Francisco papers for 500 hands to help harvest their crop. About three hundred came a week ahead of time and then it became necessary to bring out a squad of policemen from the city. We would not think of requiring over fifty people to handle such a crop now.

When the hulls on the nuts are loose from the shell, as will be indicated by their bursting open, it is time to begin gathering if you wish to hull them. If they get too dry you will have to wet them before hulling or you will break the shells. If you wish to shell them then the drier the better. It will not pay to begin until the nuts about the crotches of the trees are ready and they will be the last to ripen. That is it will not pay to go over the ground twice. When they are all ready you can get all at one gathering. Have some sheets made of heavy unbleached sheeting or light duck or sail cloth. Mine for large trees are 15 x 30 feet. Two men to a sheet and two sheets to a tree. Spread the sheets under the tree one on each side, lapping the edges where they join. Then the men take willow or bamboo poles and by jarring the limbs cause the nuts to fall on the sheets. Always strike the limb sideways for if you strike a glancing blow down the limb you will bring you chances of next year's crop with you. The object is to get the nuts and disturb the foliage as little as possible. Of course you will get some twigs and leaves with the nuts anyway. When the nuts are all off the tree, the men toss their poles to the next tree and then gather up the sheets and, lifting them, carry them to the next tree where the process is repeated. That is what they should do, but if you are not watching they will drag the sheets. If the time saved is worth more than the extra wear and tear on the sheets, then by all means drag them. When enough nuts are in the sheets to fill several lug boxes, the boxes are placed on the ground side by side and the sheets are emptied of their burden. These boxes are then stacked up so as to be easily seen and the teamster gathers them up and hauls them in to the shed where they are run through the huller and then placed in the hoppers ready for the hand sorting. After sorting they are placed on trays or board platforms in the dry-yard to cure. They should be cured until the kernel will break without bending. Then they are ready for bleaching; but be sure they are thoroughly cured before bleaching or the kernel will absorb the sulphur and be spoiled. When properly cured, any means may be employed which will thoroughly dampen the shell but not penetrate to the kernel and then be subjected to the fumes of burning sulphur for a period of thirty minutes to one or two hours according to the variety and condition of the nut. A yellowish white color of the shell is demanded by the trade. Do not over sulphur. When sufficiently bleached they are removed and placed in the sun for a few hours to dry and then sacked up ready for market. My present plan of bleaching is as follows: When cured we place them on fruit trays about one inch thick and run them into a bin of the sulphur house which has been connected with a steam boiler, and then low pressure steam is turned into the house for a half or three-quarters of an hour. Then they are removed and quickly run in another bin which has a sulphur charge ready fired, and bleached from forty minutes to an hour when they are removed and immediately sacked. The same help will bleach twice as many in a day with steam as without it. Be careful not to use high pressure steam or you will cook the nuts. For this valuable method I am indebted to Mr. Reed of Suisun. Only standard almond sacks should be used, and while they seem expensive they are a commercial success because they weigh two and a half pounds and no tare is taken by the trade if you use these sacks.

The almonds may also be shelled instead of hulled as there are machines for shelling which do very good work. The present year our crop was light and we shelled our entire crop of about twelve tons of clean kernels. We figured better prices this way. Nearly all the imported nuts are shelled before importing. If you shell they are not to be bleached and you have all the shells to work back into the soil as material for humus which is no small item. For a commercial proposition if you can get the same money for your product shelled, saving thereby half the hauling and return half the tonnage to your soil which you would ship off if the product were hulled, better do it.

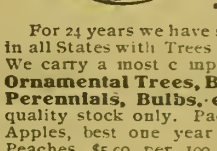
### Marketing.

And now we come to the keystone of the whole matter. We may get lots of pleasure and satisfaction out of our orchards in producing a beautiful bloom and a splendid crop but unless we can turn this into cold hard cash it will never be considered as a commercial proposition. It must pay! We must be able to make a net profit over and above the cost of production or there will be no inducement to continue to be a producer. The last few cents per pound that the market warrants will be that net profit and you should have it. Don't forget that. There are various efforts at co-operation among growers which are more or less successful, but there is no other line in which all might be enlisted as easily as the almond growers. The reason for this is the ease with which values may be determined. Just as long as the larger part of the almonds consumed is imported it is plain that the price of the foreign product must fix the price of the home product. When we have a plentiful crop on this coast we have to ship some to the East. Therefore the price of foreign almonds laid down at New York, duty paid, less the freight from here to New York will determine the price on this coast. When crops are light here we consume all our product on the coast and then the price of foreign almonds landed at New York, plus duty and freight out here will determine the prices here. This is so fixed and definite that it should be easy to determine the market price, yet very few seem to know about it.

The present method of marketing in a hap hazard way works a hardship on the grower because he does not always get a fair price for his product, the price the market warrants. As at present operated, the speculators learn about the foreign crop late in June or early in July, determine what the maximum price on this coast will be and then endeavor to purchase from the grower just as much below that price as possible. The object is not to buy low and sell high for they usually sell on a fixed margin above cost, but the aim is to undersell their competitors when they go to the jobbing trade as this is the one method above all others which will bring them business. The system is not to their advantage, however, because they never know when a competitor may be able to buy still cheaper from some other grower and so undersell them or cause them a loss. The party who bought our almonds this year said he would just as soon pay 30 cents as 20 cents if the market was steadied so he knew just what he was doing. But when he buys on a two cent margin and some other buyer succeeds in buying from some other grower for two cents less, then the other buyer is able to depress the market to that extent in his quotations to the trade and my buyer as well as others who were inclined to deal fairly by the growers suffer a loss which ultimately falls on the growers themselves. Understand that if you sell below the market price you not only lose the net profit that should be yours but you cause a loss to all other growers and fair dealers. It is absolutely a case where no grower stands or falls alone but he necessarily carries his fellow men with him. What we want is some method of marketing that will make the market for almonds as steady and stable as the market for flour or sugar. This will work no hardship to anyone but will be universally beneficial. It is a plan that ought to

(Continued on Page 599.)

Trees and Seeds



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# Citrus and Sub-Tropical Fruits

## PROTECTION FROM INJURY BY FROST.

By Alex McAdie, Professor, U. S. Weather Bureau, San Francisco.

IN our attempts to prevent damage by frost in California, the first question to be answered is, What is needed? A cheap, easily handled, effective means of preventing rapid cooling during the night and early morning hours. Also we must prevent excessive drying of the plant tissues previous to the fall in temperature and excessive warming of the dried, chilled plant after the frost. Briefly, we must shield fruit and leaf from abnormal strains, caused by rapid changes in temperature and humidity. In nearly all the papers heretofore written on Protection from Frost, much attention has been given to temperature changes; but very little has been said about the condition which so frequently precedes frost, namely, the drying. In California our frost periods are nearly always preceded by a day or two of boisterous north winds, quieting down at nightfall. These winds, we have good reason for believing, rob vegetation of much of the natural moisture, and probably leave plants in no proper condition to withstand the rapid cooling of the quiet night hours following. The plants are also in no condition to withstand the rapid warming after sunrise, when the sun's rays fall on them through a dry clear atmosphere. At such times there is nothing to intercept the sun's heat, practically no atmospheric absorption and no gradual heating, to which the plant might accommodate itself.

Our attention has been drawn to the importance of this drying effect preceding frost, by the damage done during the cold spell of December 19-20, 1908. Strong desiccating winds blew down the San Joaquin valley for several days before the freeze. My belief, expressed popularly, is that the ground was dried out, the trees in large measure over-stimulated the effort to meet the intense evaporation at the leaf surfaces. Then when the excessive metabolism could not be longer maintained there was inadequate exudation; and shrivelled plant tissue resulted; and this at a time when it was most necessary that the plant should have a good supply of water to enable it to resist rapid temperature change. Again it must be plain that such dried chilled tissue is in no condition to withstand rapid heating. There is some evidence to support these views in the well known fact that frosted oranges, for example, are somewhat dried and do not regain their natural juiciness by remaining on the trees.

If this view be correct, it is plain that in any campaign of frost fighting, we must not neglect this antecedent condition of drying and the consequent condition of rapid thawing.

The general campaign of frost fighting, as thus far laid out, covers three main lines:

1. Accurate advance information of the occurrence of frost.
2. Applying preventive measures during critical hours.
3. Preventing sudden warming of chilled fruit, or a too rapid thawing out.

Under the first of these heads great progress has been made in the past five years. Not only in California, but now throughout the various fruit sections of the United States, Weather Bureau officials recognize the value of special study of types of frost maps. The work first undertaken in California on a large scale and for a distinct purpose, is now an important feature of the forecaster's work at many places. Frosts are found to occur as a consequence of certain movements of low and high pressure areas and the displacement of the lower air incident to the pressure changes. Frost is a matter of air drainage, both on a large scale and on a small scale. In other words, frosts are successfully forecast because we understand the general movements of the lower air and in particular certain local circulations.

The forecaster anticipates a condition in which the lower air strata are quiet, dust-free, and very dry. Under such condition there is rapid radiation and loss of heat from plant and ground and a sharp fall in temperature. While the forecaster gives the general conditions favorable for frost, it must be clearly understood that each individual orchardist must study his own problem of air movement in his own locality. These local circulations should be studied in connection with the daily Weather Map. It is also advisable to have certain instrumental records, such as are given by the thermograph and hygrograph; the importance of which data will be apparent from the discussion farther on.

Under the second head, we must discuss some of the physical processes operative in the formation of frost and then mention the various devices, such as smudging outfits, coal basket, oil pots, orchard heaters, anti-frost covers, etc. Opinions will differ as to the relative efficiency of various devices and some are undoubtedly more serviceable for certain localities than others. We propose to discuss the principles rather than individual devices.

There are three general principles used in frost protection devices.

1. Adding heat.
2. Saving heat.
3. Mixing, or stirring the air to prevent cool areas.

Under the first are included all the various forms of heating devices, such as open fires, smudge fires, coal baskets, oil pots, orchard heaters, etc. The use of fires probably dates back beyond our memory, but the first use of the coal baskets for the specific purpose of preventing loss by frost was by Edward Copely at Riverside, California, about 1896. The first use of oil, that we have a record of, was by Everett ,at Arlington, Cal., and the first use of hot water was by Meacham, at Riverside. A severe frost about the end of December, 1905, caused great damage to the orange crop in the Riverside section, and the following year may be said to have marked the beginning of the frost fighting campaign. The Riverside Horticultural Club took an active interest in the problem and many experiments were conducted by such men as those already mentioned and Koethen, Reed, Holmes, Hall, and others whose names I cannot now recall, also Hammond and McAdie. The work has gone on and there are now on the market many forms of heating devices. A convenient and serviceable frost alarm thermometer and oil pot were devised by the Weather Bureau official at Fresno, Mr. J. P. Bolton, for use in the vineyards, during the spring frosts. There have recently been put upon the market orchard heaters, burning oil, and the claim is made that in the apple sections of Colorado and other Rocky Mountain states results have been most satisfactory. These are known as the Troutman Orchard Heaters, burning oil, and used variously forty to a hundred (or even more) to the acre.

Direct heating by large open fires is not recommended, as experience has shown that the heat is radiated largely upward and is not effective in warming the fruit. I may illustrate this by the following experience of one of the most intelligent horticulturists in California. Mr. J. S. Douglass of San Emigdio Ranch writes that during the night of Dec. 20th and 21st, 1908, the temperature for fourteen hours ranged between 19 and 24 degrees F. For thirty-six hours the temperature did not rise above 28 degrees F. About fifteen cords of wood and forty tons of wet hay were burned in the effort to protect the orchard. The relative humidity was low, there was little air movement and the smoke rose as straight as a pine tree. At the intersection of two roads in the orchard there was a large fire and thirty feet away a thermometer was placed in

an olive tree. A second fire was burning twenty feet away from this tree in another direction, and a third fire twenty-five feet away in still another direction. The temperature at the tree however remained at about 20 degrees F. from 3 to 8 a.m. December 21st. This was the coldest weather in this locality since 1888. It is evident that in this case a large amount of heat was lost.

Many small fires are much more effective than a few large fires. In the use of numerous small heating devices, it is possible to distribute the heat where it is most needed. It is also possible by increasing the number of wire baskets, oil pots or orchard heaters, to offset a continuing fall in temperature. It should, however, be stated that with most oil pots, unless the combustion is excellent there is a deposit of soot which may settle on the fruit.

Under the second head, that of saving heat, we have all the various smudging devices for artificial cloud making and all the different forms of covering. The object, of course, is to utilize the earth's heat as much as possible by entrapping it. Any cover spread above the ground interferes with loss by radiation and the most effective protective methods have rightly been based upon this saving and storage of heat. To be thoroughly effective, however, the cover should be spread before the earth has lost most of its heat. The cause of failure in many smudging efforts is that they are begun too late. The cover, or shield protection, has another advantage in that it serves after sunrise as a guard against the too rapid warming of the chilled plant after sunrise. We have examined many orchards in California and found that fruit was most damaged where exposed to the direct rays of the sun. While it is not definitely known what action causes the death of the cell, whether it be a rupture of the cell walls or a separation of the water and absence of the necessary turgidity, it would seem that we could not err in guarding the plant fibre from strain due to rapid and unequal heating while still chilled.

Of the various forms of cover devices, the lattice work is probably the most expensive, but certainly the most effective.

A new form of cover, known as an anti-frost cover, was devised last year by McAdie in the San Francisco Weather Bureau office. It is, however. better suited for the protection of small fruit, garden flowers and vegetables. It is based on the old and widely known practice of covering garden flowers with newspapers when frost is expected. In the new anti-frost cover there is used instead of a single cover a double layer of prepared paper with an intervening air space. This prevents almost perfectly the escape of the long heat waves from the ground. Such covering can be spread above the plant an hour or two before sunset; i. e., before the ground has lost much of its heat. If at the same time shallow pans of warm water are placed under the cover, an effective screen and serviceable supply of water are provided. It is also to be noted that we use this cover at a time when the roots are absorbing vigorously and transpiration by the leaves is at a maximum. We therefore prevent any lowering of temperature at the leaf surface and store up in the plant a quantity of heat energy for expenditure slowly through the night hours. The actual temperature of the air is of less importance than the temperature of the leaf or fruit surface. A deposit of moisture is advantageous.

A special use of the anti-frost cover in connection with tree fruits is to unroll the covers in the orchard before sunset and to roll them up about 4 o'clock in the morning.

Under the third head, methods based upon mixing or stirring the air, no special devices that are available and practicable are known. When nature mixes the air, i. e., on windy nights, frost does not occur. It is now known to meteorologists that layers of air of different temperature may lie close to one another without mixing. On nearly every frosty night there is a difference of 6, 8 or 10 degrees in temperature between the ground and the air ten feet above, the warmer layers being above. Where air is well mixed and there is good ventilation, we seldom find frost.

Finally, in our opinion the ideal frost protection method will be a combination of a cover, a heater and a ventilator, and if the views advanced at the beginning of this paper are correct, as to injury caused by desiccation, it will also be necessary to provide for water in proper quantity.

To sum up, the fruit grower should:

1. Watch the weather forecast closely.
2. Study local air circulation.
3. Use a thermograph in the orchard and study the temperature record.
4. Experiment and determine for his particular crop the most suitable heater, cover or watering device.
5. Not give up the fight against frost, because of a first failure.

### RHUBARB ASSOCIATION.

The Southern California Rhubarb Growers' Association met in Los Angeles last week and organized for the second year's work of the association. Mr. W. J. Embree of El Monte is the Secretary for the coming year. It was decided by the board of directors to open a stall in the Los Angeles Market to handle so far as possible the local sales of its members. This action has been made necessary by the treatment accorded the rhubarb growers during the last year, and they feel that they can meet the requirements of the trade better by selling their own stuff. We trust that the movement will lead to a more satisfactory disposal of the product and that it will prove a step in advancement of an industry which promises to be a great one for the state.

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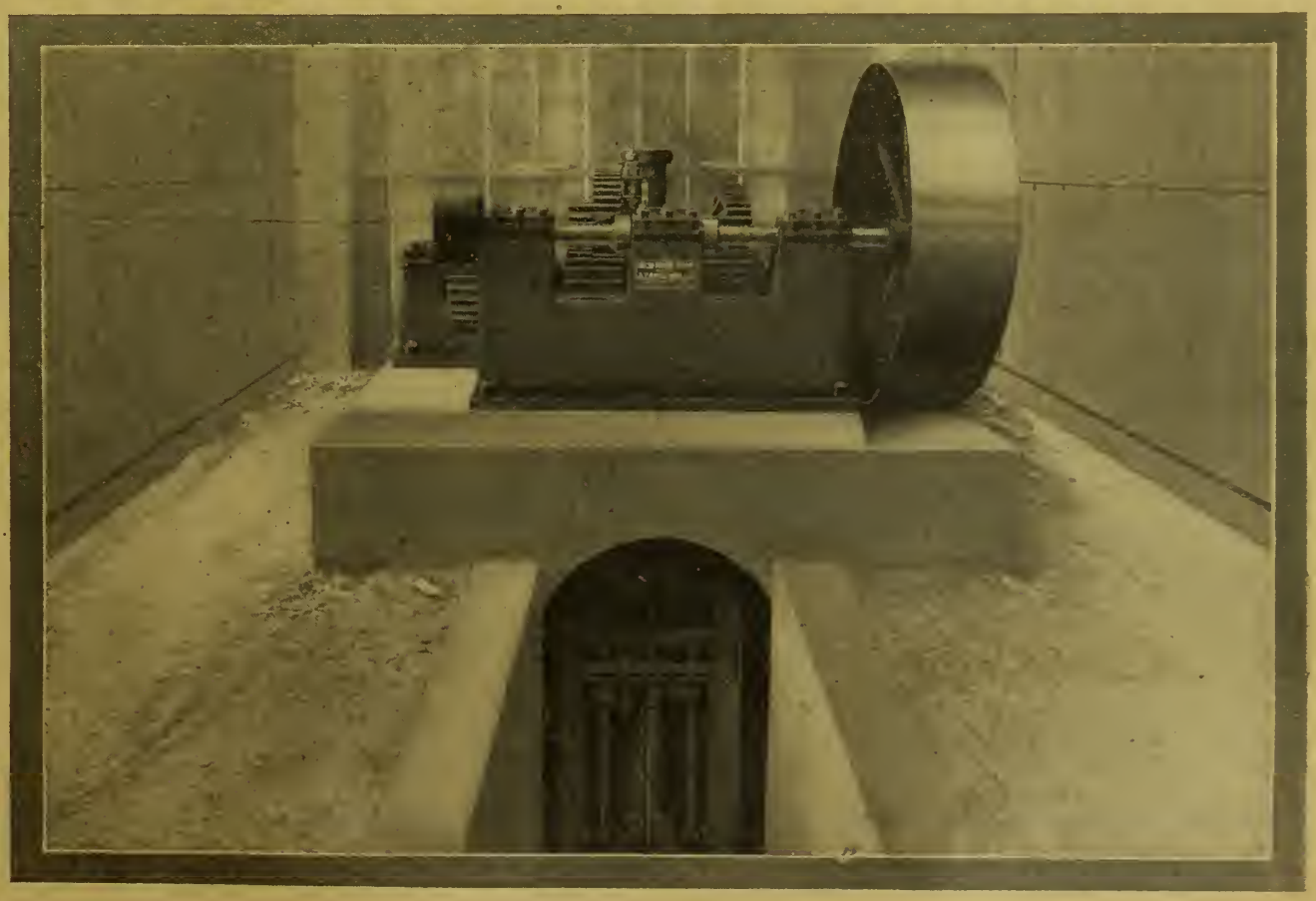

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A complete line of Nursery Stock. Special prices on Peach, Plum and Apricots. It will pay you to let us figure with you before placing your order for Spring planting. All stock guaranteed true to name.

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**The Famous Insecticide and Fungicide**

It has been found that Rex Lime & Sulphur Solution used in the early part of the season is as effective for Blight as the Bordeaux Mixture, and it does not have the injurious effect upon the tree as Blue-Stone. In Oregon and Washington the use of Bordeaux is being entirely eliminated and lime and sulphur solution used for all purposes. The leaves are falling from the trees, and especially the Peach, Almond and Apricot should be immediately sprayed for the first spraying. The second spraying should be done on all trees just before the buds open in the Spring.

Rex Lime & Sulphur Solution is a guaranteed article; properly prepared; free from sediment, and as cheap, if not cheaper, than the farmer can make a mixture himself.

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**On California Black Root. Also**

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Valencia and Navel Orange Trees. Peaches, Apricots, Plums, Apples, Quinces, Pears, Olives and all small fruits Umbrellas by the 100. A full line of berries and Spineless Cactus.

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**NITRATE AGENCIES COMPANY**
W. S. SPARR, Agent, 321 Stimson Block, Los Angeles

## Vegetable

### CULTURE OF THE GOOSEBERRY.

LATE fall, according to an expert gooseberry raiser, is the best time to set out the plant, "They start growth," he said, "very early in the spring, and when spring planting is successfully done it must be done very early. In fact, it usually needs to be done earlier than the ground is in proper shape to be worked properly. I have tried some spring planting, but not with very good results; therefore, I have decided that it is best in this latitude especially, to plant them in the fall of the year.

"In selecting a site, always select a well-drained site, and when the ground is in good condition to work, prepare it deeply and thoroughly.

"When transplanting always cut back the dry or injured roots to fresh sound wood, and avoid exposure to to sun or drying winds; cover the roots with moist, mellow, surface soil and tamp firmly.

"I set my plants five feet apart each way, so they can be worked out a little each way. Do not allow the adjoining crop to encroach upon the bushes. To insure good growth it is best to give clean, thorough cultivation from the early spring after they are planted in the fall till about midsummer.

"The fertility of the soil about the bushes may be most economically maintained by occasional applications of barnyard manure. They must have fertility if they grow and develop good marketable berries.

"Unleached wood ashes, spread evenly over the ground, are particularly valuable for bushes, vines and trees.

"In the early spring, as soon as the leaves are full grown, look for the young currant worms on the lower leaves of the bushes. They may be easily killed by spraying with Paris green, one ounce to ten gallons of water or hellebore one ounce to three gallons of water. To be most effective this should be sprayed on from the under side of the bushes. A second breed of the worms sometimes appears abount midsummer, when a second spraying may be necessary.

"Prune every year, either in the late fall or very early spring, and here again, I have learned that late fall pruning is better than spring for the gooseberry. I now do all my planting and pruning in the late fall, after the sap has all gone down, and I have much better success with them than I did when I tried the spring planting and pruning.

"I have found that a good plan is to grow them in bush form with about six bunches to the bush. Then by adopting a renewal method of pruning the oldest bunches and allowing two strong new ones to take their places, fresh vines can be kept at all times.

"I cut out all the other new canes that come from the bottom and shorten back the two left to about two feet to cause them to branch out at the proper height.

"Should the experimenter wish to increase his stock of any of the varieties he may readily do so by layering a few of the lower canes or making cuttings about eight inches long—of the new wood pruned out—and planting them about six inches deep in moist, mellow soil."—Portland Oregonian.

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doesn't crack, rot, rust or break. How long do you suppose roofing lasts that's made of—who can tell?

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| 30 in. long, 7 in. wide, | 20.00 |

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**1380 WILLOW ST., LOS ANGELES, CAL.**

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$1.50 per Dozen
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Berry Plants of All Kinds.

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Rhubarb and berry specialist

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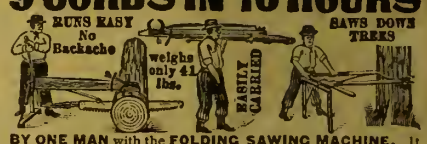


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For fall and early spring planting. Our interior valley climatic conditions make hardy plants. Best to ship. Best to plant. Our trees grow. Prices right.

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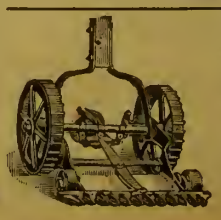
**Redlands, Cal.**



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**Clipper Lawn Mower**
**Dixon, Illinois.**

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## Orange and Lemon Trees

Our Citrus Trees are of the very best one and two year buds. We claim to have the finest trees on the market for the next season's planting, in any quantity. We are also large growers of

## Palms, Roses, Fruit Trees

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**Armstrong's Covina Nurseries**
222 E. College St., Covina, Cal.

# Eucalyptus Seeds

In large or small quantities, 33 kinds to select from. Write for free pamphlet "Eucalyptus Culture." It gives full directions for sowing the seed, raising the plants and planting out into the field, together with descriptions of all the leading species, giving their uses and the localities to which they are adapted. Sample packets 15c each, 2 for 25c, 4 for 50c, 9 for $1.00. Choice Flower, Garden, Tree and Palm Seeds, Roses, Flowering Plants etc. Catalogue mailed free upon application.

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**100,000 BLUE GUMS**
fine, healthy stock.
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Strong, healthy roots ready for immediate planting in permanent beds. I have plants of the four leading commercial varieties—Barr's Mammoth, Conover's Colossal, Columbian Mammoth White and Palmetto—all grown from specially selected seed. Price $1 per 100, $5 per 1000, cash, express prepaid. Write for prices on large quantities.

**200,000 Mammoth Blackberry and Red Loganberry**

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# 20,000 Superlative Raspberry Plants

The Largest Raspberry in Cultivation.
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From selected trees of the Vrooman Strain on black native root.

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# EUCALYPTUS
**TREES AND SEED**
SUNSET HORTICULTURAL COMPANY
Inglewood, California


# Ornamental

### LILIUM LONGIFLORUM.

NEARLY all lilies thrive in this mild climate if their needs are understood, but none are easier to grow than L. longiflorum and its varieties. The writer has grown them in considerable quantity for many years and except for insect pests finds them very satisfactory.

The quality of the soil is of secondary importance provided it is rich enough to furnish proper nutriment without applying stable manure. Plant the bulbs four or five inches deep, and do not allow them to suffer for water. Unless the ground can be frequently stirred to prevent baking, a mulch of leaves, chopped straw, or shavings should be applied. A position in full sun away from trees is to be recommended.

Attempts have been made here to grow them commercially from seed. A description of this method may be interesting.

The seed ripens about September 1st, and is sown immediately in beds of proper soil, under the partial shade of a lath frame or of canvas. They usually germinate freely in three to six weeks. With favorable weather and good care they are ready to transplant in March to the field. An acre of ground will accommodate 40,000 to 50,000. Considerable care in watering and cultivating is necessary to prevent the small plants from becoming dormant during the summer months, as it is their nature to do. Therein lies the secret of getting a large bulb in a short time. With continuous growth they all flower freely in May and June, twenty months or thereabouts from the time of sowing the seed, and the bulbs are then ripened and are ready to dig late in August.

A few of the stronger seedlings have flowered for me in the fall, ten to fourteen months from the time the seed was sown. Several have had as many as nine flowers. These bulbs all bloom again at the regular time in the following spring.

Most of the work with seedlings has been with stock raised from crosses of the different varieties of L. Longiflorum viz.: Harrisii, giganteum, multiflorum, etc. Many of these hybrid seedlings show extreme vigor throwing stout, well clothed stems and bearing fifteen to twenty-five flowers—exceptional ones as many as thirty and forty. Among them are found all types imaginable, in size, shape and substance of flowers; in color of stem and in leafage, as well as in general vigor.

The industry is decidedly in its infancy yet and may take a number of years to prove it. We have much faith in its final success. Much work needs to be done first, however, in selecting and fixing a proper strain and this takes time.

I have had considerable trouble with an insect pest, a minute mite that attacks the root and bulbs, burrowing in the tissue of the scales and causing decay. This is scientifically known as Rhizoglyphus rhizophagus, and is found frequently in decayed portions of bulbs of other plants, but I think that in them it only follows up attacks of disease, while on lily bulbs it is decidedly the aggressor, attacking the new, healthy tissue freely and soon reaching the heart of the bulb.

Having no freezing weather here, soil once infested by these pests seems to be continuously occupied by them. Where they come from I can only guess, but think they are brought in by stable manure. Upon land where no bulbs or roots have previously been grown and where no stable manure has been applied, I have no doubt healthy bulbs can be grown, provided the seedlings have been raised in clean soil in the seed beds. I am planning to try some experiments in sterilizing the soil by soaking with various chemical solutions.—Fred Rafferty in Pacific Garden.


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Fresh crop seed absolutely pure and high germination. Ask for our prices on your wants. This seed is sure to advance in price very soon and early orders will save you money.

Plant **Yellow Danver** and **Australian Brown Onions** for early spring crops.

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We have a fine stock of trees—all leading varieties.

# SWEET PEAS

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It Will Pay You
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**Liquid Sprayer**

Has diaphragm pump and throws the strongest spray. Write for description.
**Vermorels Liquid and Powder Sprayers** greatly excel all others.

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It has been demonstrated in the San Joaquin Valley that the best time to plant Eucalyptus trees is about the first of November, or as soon as the rains have thoroughly soaked the soil.

We have 200,000 trees of various varieties just the proper size for fall planting. We would advise that you place your order early, as there are very few trees to be had at this time of the year.

**Aggeler & Musser Seed Co.**
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Trees Plants Bulbs

Just received new importation **Holland Bulbs**
HYACINTHS TULIPS NARCISSUS CROCUS IRIS
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My plants are all grown in Tropico and on land never before used for Strawberry Culture. Plants are selected by myself for breeding and the blossoms always picked, therefore the strength grows into new plants. This is why my stock will produce by far the greatest amount of berries. If you are going to set out 100 or 500,000 be sure and write to

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Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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McDONALD'S HYDRO CARBON GUN

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**Quick-Easy-Cheap**

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There is no business in the world where a few hundred dollars investment, combined with a little energy, will obtain a competency so surely or quickly as the operation of an "American" Well Machine. 40 years' experience and 59 regular styles and sizes make them the world's standard.

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**GARDEN VALLEY POULTRY YARDS**

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State V. P. Nat. S. C. B. O. Club for Cal.

**Rhubarb Plants for Sale**

We have a few thousand extra choice one year old CRIMSON WINTER RHUBARB plants which we will sell for $25.00 per thousand. NOW IS THE TIME TO SET THEM in order to raise a splendid crop next season.

**The Phalanx Co.** 513 Chamber of Commerce Bldg., Los Angeles


# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Scab Treatment.

Can seed potatoes be dipped in any solution that will prevent them from having scab?—C. M., Arroyo Grande.

One ounce of corrosive sublimate dissolved in six gallons of water is a very successful treatment for potato scab. Some prefer the formaldehyde solution which is made of 16 ounces of 40 per cent formaldehyde to 30 gallons of water. Immerse the whole tuber in one of these solutions, but it must be borne in mind that the seed after this treatment must be planted on clean soil, for if soil is infested with spores of scab fungus the crop will still be infested. Immerse the whole tubers in the solution an hour or more.

### Trellising Muscats.

Will muscat grapes grow on a trellis and thrive and do as well with the same treatment and soil as the Concord variety? Any suggestions for special cultivation or treatment for muscats will be appreciated.—N. E. M., Santa Ana.

The muscat grape will do well on a trellis. This means long pruning in one sense but they should be short pruned on the long canes. That is, grow your vines over the arbor and prune to short spurs on these. Don't try to cover the arbor in a year or two, for if you do, you will have long stretches of branches without any canes or buds. Extend the vine gradually, not making over two new main branches each year.

We cannot tell if it will do as well as Concord in your locality. Muscat drops its fruit badly in some situations while nearby it does not. If muscats do well when pruned short in your locality, they should do well on a trellis, only they should have more water and some fertilizer.—J. W. M.

### Sore Eyes.

I have a young sow that has lately had sore eyes. Matter forms till they are nearly closed. She seems to be in good health otherwise.—J. R. D., Turlock.

Get the following prescription filled and use two or three times daily with a curved medicine dropper. Adrenolin two drams, distilled water two ounces, mix and use with the dropper.

### Killing Elm Stumps.

What is the best way to keep suckers away from elm trees? I intend to cut them down.—J. S. K., Gilroy.

The most effective way to handle stumps to prevent suckers is to clear away the dirt from near the trunk and then pile brush around it and burn. This usually scorches the life out of the stump so that it will not sucker.

### Wonderberry.

Will you please tell something of Burbank's wonderberry through your Queries and Replies. What do you thing of its food value, and when and how is it best started?—H. M., Pasadena.

The wonderberry has been such a bone of contention that we hesitate to give any estimate of its worth. As a rule we understand that those who have grown it are very much disappointed with it, though there are some who maintain that it makes fine pies. The method of culture is practically the same as for tomatoes. Seed may be planted in hot bed or cold frame in January and plants later reset. Those who have observed the two plants claim that the garden huckleberry is vastly superior to the wonderberry and easier of cultivation.

### Keeping Olives.

Will pickled olives keep in brine without being hermetically closed, and how long?—R. W. E., Sanger.

That depends on several factors. Green olives which have been very carefully picked and handled and cured with best methods of removing the bitter principle, will keep for some months. Ripe olives are not as good keepers, though they can be kept for some time in a good strong brine if carefully pickled, but it goes without saying that they never will keep as long as when placed in cans and sealed. Just how long they will keep, no man can say. We have knowledge of shipments to Chicago of carloads or pickled olives which were supposed to be almost perfect in methods of pickling, but the entire shipments were later dumped into the lake because of softening.

### Corning Beef.

Can you give me recipe for corning beef? I find none in my cook book.—S. A. K., Imperial.

First thoroughly rub salt into the beef which has been cut into proper sizes. Pack away for twenty four hours. This draws off the blood. Take up the beef and let it drain, then pack in barrels as desired. Make a pickle prepared as follows: For each 100 pounds of beef use 7 pounds of salt and 1 ounce, each of saltpetre and cayenne pepper, 1 quart of molasses and about 8 gallons of soft water. Boil and skim well. When cold pour over the beef. If the beef has been closely packed, this amount will well cover the 100 pounds.

Another method is as follows: For each 100 pounds of beef use 5 pounds salt, ¼ ounce saltpetre, 1 pound brown sugar, dissolved in sufficient water to cover the meat. In two weeks drain off and throw away this brine and cover beef again with fresh brine made in the same way.

### Asparagus.

Should the past season's growth on asparagus be cut off now, or will the frost kill it later and then be cut away? Should it be fertilized and with what; and how deep should the roots be covered now when it was planted last winter?—R. W. Edmiston, Sanger.

I prefer to allow the tops to ripen naturally before cutting off. It greatly aids in perfecting the crowns or buds for next season's growth. The only objection to allowing the foliage to ripen before removal is the fact that many of the seeds will shell out and become equivalent to weeds the following season. But it is better for the plant to allow it to mature even if it entails some labor in destroying the young seedlings. Nothing is better than stable manure for fertilizer and you can apply it any time from now until February. Spread it even-


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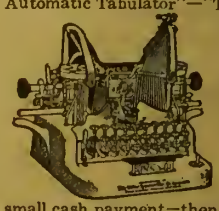

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The result has been such a deluge of applications for machines that we are simply astounded.

The demand comes from people of all classes, all ages, all occupations.

The majority of inquiries has come from people of known financial standing who were attracted by the novelty of the proposition. An impressive demonstration of the immense popularity of the Oliver Typewriter.

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ly over the entire surface and keep the patch clean by cultivation.

I do not fully understand the question about the depth the roots should be covered now. Four to six inches is deep enough for the roots to be covered at any time. The annual dressing of stable manure will keep it in good shape. Three or four inches deep with manure will not hurt and the crop will respond to such treatment. An annual dressing of Kainit—a low form of potash—about the rate of 1000 pounds per acre will be a great benefit. Apply on February.—Q. A. L.

### Himalya Berries.

Does the Himalya berry require a great deal of water or will it do fairly well without?—P. W., Ventura.

It would do as well perhaps as any other variety, but I question if any variety would give satisfactory results without plenty of water unless it should be upon exceptionally moist soil. The plantations of this variety that I have seen have had abundance of water and produced enormous crops, but the quality is not equal to Crandall's Early.—Q. A. L.

### OF INTEREST TO ONION GROWERS.

Mr. Geo. Murdock, of the California Seed Growers Co., just returned from Texas. He reports that on account of the extreme drought, only a small acreage has been planted to onions. This being so, would it not be a profitable crop for our California onion growers? Crystal Wax sets planted now will mature about April 15th. This will be early enough to get a high price while the early onions are scarce.

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FOR SALE—1500 EUREKA LEMONS 1 and 2 years old; Blue gums, Sugar gums, and Red gums; street and ornamental trees, etc. GEO. R. WARNER Santa Ana, Cal.

FOR SALE — STRONG OUTDOOR grown rooted cuttings. Send for 1-2-3 cent list. Other plants. Fine lot Blue Gums qt. tins—3 to 4 ft. GEM NURSERY, Los Gatos, Cal.

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$60.00 per ton.

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This price won't last. Get your supply now from the Armour agent in your district.

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FOR SALE,—AS FERTILIZER ABOUT 5 cars fine planing mill chips or shavings. For keeping soil loosened, better than manure; equal fertilizing value. Will make humus equivalent to leaf mold. Must move quickly. Wm. H. BROWN, fertilizers guaranteed to work, manures, 1333 Girard St., Los Angeles, Cal. Main 7682, Home 52998.

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FOR SALE—SECONDHAND WINDmills, tanks, pumps, engines at one half new price. Special, 12-H.P., Webster fine running order, $250; also 2 H. P. Engine fine jack belting, cylinder and pipe complete $120 on cars. New and redwood tanks at half new price. Large tanks for storage and reservoirs. Farm implements at half new price. Call and see. DEMMITT CO., 120 N. Main St., Los Angeles, Cal.

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BLACK LANGSHANS—EGGS FOR sale and a few very fine cockerels from my record laying pen of eight hens that have laid 1606 eggs in 12 months past and lay eggs every month in the year. Write me. I want to tell you about these handsome, as well as best of all winter layers, with show record of sweepstakes wherever shown. J. F. BOYD, breeder of high-class poultry, Monrovia, Cal.

BABY DUCKS, CHICKS, AND FOX Terrier Pups. Mammoth White Pekin ducklings, White Rock and Rhode Island Red chicks. Good stock hatched from eggs from my strong, healthy breeders. Pedigreed English Fox Terrier Pups, sired by Hampshire Jester, registered No. 100699. J. W. LYON, Route 1, Box 170, Gardena, Cal.

999 AND THEN SOME WHITE LEGhorn laying hens. These birds are through the molt, pure white, good and healthy and ready to lay. We are going to sell them at $10 per dozen while they last. Call and see them and compare with others. KLONINGER BROS., 637 S. Main St., Los Angeles, Cal.

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BERKSHIRE PIGS—PERFECT TYPE, popular American strains. A few choice boars and sows. Herd Boar, Kingsclere Duke 111812. G. B. REEVES, Mountain View, Cal.

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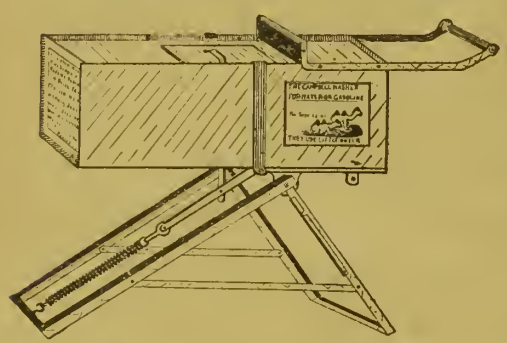

will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

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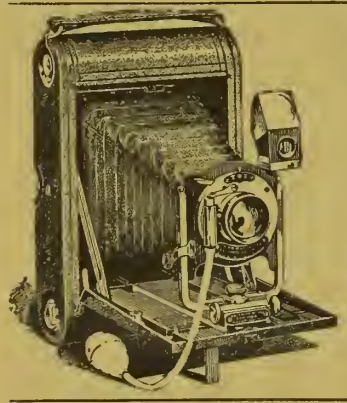

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Gentleman—Enclosed find _____ for which please send the **Cultivator** to the following until January 1, 1911, stopping same at expiration.

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Also notify the parties named that the subscription is a gift from the undersigned.

SIGNED_____

ADDRESS _____

# Household Department

### AH. SWEET IS TIPPERARY.

Ah, sweet is Tipperary in the spring-
time of the year,
When the hawthorn's whiter than
the snow,
When the feather folks assemble and
the air is all a-tremble.
With their singing and their wing-
ing to and fro;
When queenly Elieve-na-mon puts her
verdant vesture on,
And smiles to hear the news the
breezes bring;
When the sun begins to glance on the
rivulets and dance—
Ah, sweet is Tipperary in the
spring!
Ah, sweet is Tipperary in the spring
time of the year.
When the mists are rising from
the lea,
When the Golden Vale is smiling
with a beauty all beguiling
And the Suir goes crooning to the
sea;
When the shadows and the showers
only multiply the flowers.
That the lavish hand of May will
fling;
When in unfrequented ways, fairy
music softly plays—
Ah, sweet is Tipperary in the
spring!

Ah, sweet is Tipperary in the spring-
time of the year.
When life like the year is young,
When the soul is just awaking like a
lily blossom breaking,
And love words linger on the ton-
gue;
When the blue of Irish skies is the
hue of Irish eyes,
And love dreams cluster and cling
Round the heart and round the brain,
half of pleasure, half of pain—
Ah, sweet is Tipperary in the
spring!

—By Dennis A. McCarthy, in Literary Digest.

### EULALIE'S TREACHERY.

IT SEEMED to me I was dying at the moment, but I knew I was grave and calm and self-possessed and gave no outward sign of the passion and pain that raged within me.

I could not understand it.

He loved me. His face was passion paler that my own and had grown almost haggard since our parting the evening before. I knew men had passed over more than this story I had told him or rather written to him and sent to him with Eulalie.

God knows I had never dreamed it would part us, but even if I had known it he still would have heard it.

He had said he loved me—had asked me to be his wife, and I had answered there was something he must know before I gave him my promise to be his wife, and then—ah, how gladly, my face, my voice must have told him I would lay my hand in his.

"But you love me and I love you, sweetheart, What could come between us?"

"Nothing, I hope," I had answered softly; and to myself I had whispered, as if for consolation: "I had no share in the sin or the sorrow," only I had no courage to tell him the story of my father's dishonor and his death.

It was such a pitiful story for a daughter to tell. The appropriation of money entrusted to his care—taken, I knew, with the almost certainity of being able to pay it before demanded, and then—then the sudden bursting of the bubble he had placed his faith in, and then—then his death by his own hand.

It was terrible, even its memory, but he, my lover, would teach me to forget it.

We stood together now with the pitiful story told, and I knew, even before he spoke, that it had parted us.

"We would never be happy, Helene," he said. "My father would never forgive me—it would break my mother's heart. It would be an ever-present shadow—an ever-present memory to them as well as to me."

"I looked at him with wide, frightened eyes. I knew it was bad enough but that love could surmount even its memory had been my dream.

"No sin is too great to be forgiven," I said, and I knew my voice had grown cold and strained. Whatever pride I had had come to the rescue of my woman's dignity.

"No," he said, slowly. "Only it is you and I, Helene—only we two."

It was afterward I wondered what he meant. Then it seemed to me as if I must fall dead at his feet.

He saw I was trembling and suddenly bent forward and clasped me in his arms, kissing my brow and lips with passionate tenderness.

'Love! Love! Why should you and I suffer for the sins of others. Helene,if you are willing, let us face it together. For you and love I will give up father and mother——"

"Not for my sake. I could not be your wife now, Leigh, for all the earth holds. Let me go," I said.

His arms loosened and I stood pale before him. He had made his choice and he must abide by it.

"Goodby," I said, and turned away without another word.

He sprang after me.

"Helene! Helene!"

I turned and looked at him. What he read in my face I can not tell. Perhaps it was scorn, perhaps only passionate pain, but he drew back then, and I went my way.

How I reached my room I can never tell; only this I know: when the dawn of the next morning broke I was still kneeling where I had sunk in my agony the evening before.

Through my memory were ringing the words of a poem I had read long years before—ringing with pitiful persistence:

"How can one live in dreams that
are dying
In wondering sorrow, day after
day?
How can one bear to always be sigh-
ing
For love and for kisses, long passed
away?"

Yes, that is all years ago—all the pitiful story I wrote in my journal, and I am paler and older and beauty-faded. Is my beauty faded? I wonder, I can not answer, for a weary heart is no beauty frightener, but I know now the shadow that lay between me and Leigh Clarke.

It was not my father's mad act in a moment of madness, for that he knew nothing of, but the story Eulalie told him—Eulalie who had been to me as a sister, as a child to my mother.

She is married now, for wealth and position, and in reward for some kindness—fighting at her bedside the shadow of death—she told me the story.

It was a story I had never heard

of—the story of a girl of 17, who had fled from her home, with a man who could not make her his wife for the good reason he had one already. The shock had killed the girl, and she was brought home dead to her father's home. The girl was Leigh Clarke's sister, and the man's name was Phillip West. "And I made Leigh believe it was your father, Helene," she said, 'though they were not even related. Do you wonder he shrank from bringing you to his father and mother in their dead daughter's place?"

"How can I murmur, when love is still living,
Though the wide ocean roll between it and me?
There's still hope of meeting; there's still joy of feeling
Whenever the aftermath cometh to be."

Yes, I am a little older, a little paler, but it was my old glad face that smiled back at me today.

I was fastening a cluster of roses on my breast, for Leigh loved roses and he was coming to me once again, my lover as in days of yore, and I was waiting to welcome him with smiles and tears, a woman's weapon and defense.

Eulalie had told him the story as well, for I think I was yet too proud to do it, and——

The doorbell rang and I pinned the flowers and took another look at my flushing face, and then——

Then I was in the parlor and the volce I loved was in my ears.

"Helene! Sweetheart!" And as he folded me close within his arms I knew the aftermath had come—the aftermath of peace and thanksgiving. —Spokesman Review.

## RECIPES.

### English Fruit Pudding.

Soak one-half of a pound of stale bread-crumbs in one cupful of scalded milk one hour. Add two-thirds of a cupful of sugar, the beaten yolks of five eggs, one cupful of raisins seeded (cut in pieces and dredged with flour) two-thirds of a cupful of currants, one half of a cupful of chopped English walnut meats, one-half of cupful of finely chopped figs, and one-half of a cupful of finely-cut citron. Chop one-half of a pound of suet and work until creamy, using the hands. Add to first mixture, and when thoroughly mixed, add one-half of a grated nutmeg, three-fourths of a teaspoonful of cinnamon, one-third of a teaspoonful of cloves, one-third of a teaspoonful of mace and one and one-half teaspoonful of salt; then add the whites of five eggs, beaten until stiff. Turn into a buttered ring mold, cover with buttered paper and steam four and one-half hours.

### Chocolate Nut-Sticks.

First mix carefully together one cupful of fine granulated sugar, one-fourth of a cupful of melted butter, one unbeaten egg, two squares unsweetened chocolate (melted), three-fourths of a teaspoonful of vanilla, one-half of a cupful of flour and one-half of a cupful of English walnut meats cut in pieces. Line a seven inch-square pan with paraffin paper and spread mixture evenly in pan. Bake in slow oven. As soon as removed from oven turn from pan, and remove paper; then cut cake in strips, using a long sharp knife. If these directions are not followed the paper will cling to cake when it will be impossible to cut it in shapely pieces.

### Candied Orange-Peel.

Carefully remove all of the peel from four thin-skinned oranges in quarters. Cover with cold water, bring gradually to the boiling-point and let simmer until soft. Drain and remove all white portion by scraping with a spoon. Cut yellow portion in thin strips, using the scissors. Boil one cupful of sugar and one-half of a cupful of water, until syrup will thread when dropped from tip of spoon. Cook strips in syrup five minutes, drain, and roll in fine granulated sugar.—Woman's Home Companion for December.

## PROGRESSIVE.

She—The doctor says I have heart failure.

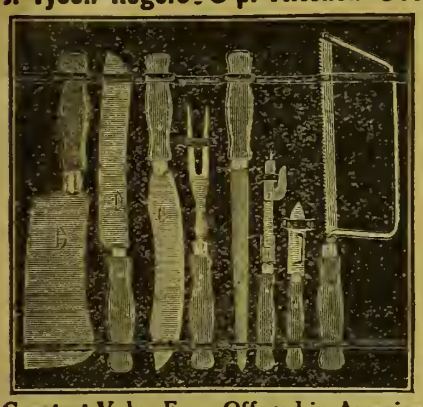
Hustling Young Lawyer—Then appoint me receiver at once.

## SQUELCHED.

Mr. Lemmin—Your family tree, Miss May—ha, ha—must be a peach.

Miss Keene—Maybe. Yours is sure a chestnut.—Cleveland Leader.


**J. Tyson Rogers 8-p. Kitchen Set**



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**Cleaver,** handy size for cutting chicken, fish and meat bones and chopping vegetables (saves hacking up your knives). **Bread Knife, Carving Set 3 p.** Scimiter and swaged blade and Steel of emery and carborundum mixed—fine for sharpening (will not break). **Universal Can Opener,** opens any can round or square. **Patent Apple and Potato Parer** (cuts a thin peeling). **Meat-Saw** for heavy bones. This set is made of selected **cutlery-steel** with Ebonized Handles, well riveted and is **guaranteed indefinitely.** We will send new goods immediately for any piece found defective. Our goods stamped plainly "J. Tyson Rogers." Look out for cheap counterfeits—not riveted. Price $2.50 (worth $5.00) in a neat box. **Leatherette Velvet-lined** Case for a wedding gift $2.50 extra. If you wish sent by mail, prepaid, add **40 cents for postage.** Send money order. Agents wanted. County rights given to capable men of clean habits.
**WALTER G. TUCKER, Pacific Coast Agency**
J. Tyson Rogers Manufacturing Co.
**507 Mission St. San Francisco**

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**101 MONTGOMERY ST.**
**SAN FRANCISCO**

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made between Dec. 1 and Jan. 10 will bear interest from Jan. 1, 1910

**Paid up Capital $1,000,000.00**

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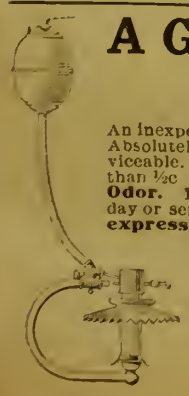

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An inexpensive, strong, white light. Absolutely safe, convenient and serviceable. 100 candle power at less than ½c an hour. **No Smoke, No Odor.** Price only $7.50. Order today or send for circular. **We pay express charges and guarantee satisfaction.**

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**852 Market Street, Oakland, Cal.**

"See the shadow the book throws across my waist? It's like the shadow caused by the metal burner or tank of your light—with this difference, I can take away the book and get direct, shadowless light. See the point?"

**MORE LIGHT**

—where more light is needed—that's what The Angle Lamp gives. It is oil lighting at its best with the smoke, odor and bother eliminated by new methods. It throws upon book or table a direct shadowless light delightful to read or work by.

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resembles a handsome gas chandelier in its appearance and in its convenience. It is lighted and extinguished like gas. May be turned up full or turned low without odor. Safely filled while burning. Requires filling once or twice a week. Floods every corner of the room with a splendid light. Costs about 3 cents per week.
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Which Accounts may be checked against without presentation of Pass Book. Interest is paid monthly on the minimum monthly balances.

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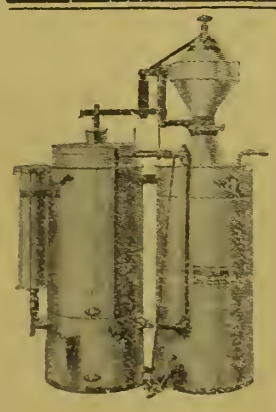
Saved the lumber, coal and building plant of A. I. Schowalter & Co., of Halstead, Kan., from fire last March. The south wind blew the flames from a barn filled with hay directly on the sheds of this company. These sheds were roofed with Malthoid, while the sides were covered with corrugated iron. The heat was so intense that it ignited the wood back of the corrugated iron and it was only with difficulty extinguished. The fire-resisting qualities of Malthoid Roofing saved the roof, which was subjected to the most heat.

Malthoid Roofing is fire-resisting and durable.

**The Paraffine Paint Co.** No. 34 First Street San Francisco, Cal.
**E. G. Judah, General Representative, Security Bldg, Los Angeles**



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It is the best and cheapest light.
It saves you time and money.
It does not wear out your eyes.

**The Superior Generator Is Automatic and Satisfactory**

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**Superior Light & Heat Company**
**151-3 No. Clarence St., Los Angeles, Cal.**
**422 Monadnock Building, San Francisco**

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, December 8, 1909.

### Butter.

Butter stands as it has for the past week. Cooking and creamery are in larger demand.

Produce Exchange wholesale quotations are as follows with actual selling prices to the trade 2½ advance on Extras.

Creamery per roll .....67½@75
Eastern Creamery per roll .....67½
Cooking .....26
Ladies .....26@27

### Cheese.

Northern fresh .....19@20
Domestic Swiss .....23
Imported Swiss .....32

### Eggs and Poultry.

No change in the local egg market. Easterns are coming in in large quantities and storage stock is weaker.

Paying price f. o. b. L. A. is:
Local candled .....51@53
Case count buying price .....48
Eastern fresh .....35
Storage .....26@28

Dealers pay for live poultry f. o. b. L. A.
Hens per pound .....18@19
Roosters .....9@18
Roasters 3 lbs. and up .....18@19
Spring chickens .....18@20
Turkeys .....20@24
Geese .....10@12
Ducks .....10@12
Squabs .....1.25@1.75

### Live Stock.

The following quotations are f. o. b., Los Angeles on all stock.
Hogs from 175 to 200 pounds.....7¾
Prime Steers .....4¾
Heifers .....3½@4¼
Calves per pound .....5
Sheep ewes per head .....3.75@4.00
Lambs per head .....3.75@4.00
Wethers .....4.50@5.00

### Potatoes.

Extra demand is causing firmness in the potato market.

Wholesale prices are:
Yellow Sweets per ctl .....1.35@1.60
Burbank local .....85@1.00
Highlands .....1.10@1.25
Salinas .....1.50@1.65
Watsonville .....1.50@1.65

### Onions.

Wholesale quotations:
Yellow Danvers .....1.25@1.35
Australian Browns per sack .....1.75
Garlic .....8@10

### Vegetables.

Wholesale quotations:
Artichokes locals .....1.10@1.25
Beets, sk .....80
Beans, string .....8
Brussels sprouts per lb. .....8@9
Bell peppers .....6@8
Cabbage, per sack .....85@1.00
Celery per doz .....50@60
Cucumbers, per box .....1.00
Cauliflower per doz .....40@60
Carrots per sk .....80
Egg plant per lb .....3@5
Green onions per doz bunches.....25
Hubbard squash .....1@1¼
Lettuce choice per crate ....1.25@1.50
Leeks .....35
Oyster plant .....35@40
Summer Squash, lug.....75
Okra per lb. .....8@10
Peas per lb. .....8
Parsley, per dozen bunches ....15@25
Pumpkins per lb. .....1½
Parsnips .....40
Radishes per doz. .....20@25
Rhubarb, crimson winter.....1.00
Spinach per doz .....17½
Turnips sk .....80
Tomatoes lugs .....85@1.00

### Citrus Fruits.

Navels .....2.75@3.00
Valencias .....3.50
Grapefruit .....2.50@3.50
Lemons .....2.25@3.50
Limes, halves .....1.50@2.00

### Fresh Fruits.

Wholesale prices on the market are:
Bellefleurs .....1.35@1.50
Winesaps .....2.75@3.00
Permains Red .....1.20@1.50
Jonathans .....3.00
Cider .....1.25@1.50
Casabas per crate .....1.70
Cantaloupes Jumbos..... ..2.50@3.00
Christmas melons .....2.00
Figs .....1.25@1.50
Grapes lug box .....1.25@1.50
Persimmons lb. .....8@10
Peaches per box .....1.50
Winter Nelis .....2.25
Quinces per bx. .....1.25
Quinces per lb. .....1½
Raspberries .....10
Blackberries .....10@11
Strawberries .....8@10

### Dried Fruits.

Wholesale prices are:
Apricots .....12@15
Evap apples fy per lb .....10@11
Figs box .....1.25
Peaches .....7@8
Pears .....11@12
Plums pitted .....12½
Nectarines .....9@10
Prunes .....4½@10

### Beans Dried.

Wholesale quotations:
Limas per ctl .....4.40@4.50
Pink No. 1 .....4.25@4.35
Black eyes .....4.75
Lady Washington .....4.25@4.50
Small white .....540@5.50
Garvanzas .....4.50.
Lentils .....7.00

### Nuts.

The following walnut prices are not the wholesale, but car lot quotations established by the walnut association.
No. 1 soft shell .....11½
No. 1 hard shell .....11
No. 2 soft shell .....7½
Almonds IXL per lb. .....15@17
Pecans polished .....12½@16
Peanuts Eastern .....7
Peanuts, Cal .....5@5½

### Honey.

Wholesale quotations:
Extracted water white .....7@7½
Extracted light amber .....6@6½
Comb Water White .....18
Comb, white .....15
Beeswax .....25

### Hay.

Buying prices f. o. b. cars L. A. are:
Barley Hay .....10.00@14.50
Alfalfa, local .....12.50@14.00
Alfalfa Imperial .....11.00@13.00
Northern .....12.00@13.50
Wheat hay .....11.00@14.00
Tame oat .....11.00@15.50

### Grain.

Wholesale selling price f. o. b., Los Angeles:
Wheat new per ctl .....2.10@2.15
Kaffir corn .....1.85
Corn .....1.75
Egyptian corn .....1.80
White oats .....1.80
Seed Rye .....2.10

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn .....1.80
Cracked wheat .....2.10
Shorts .....1.85
Bran .....1.60
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....1.85
Feed meal .....1.85
Cracked wheat .....2.10
Rolled Barley .....1.60

## San Francisco Markets

SAN FRANCISCO, Dec. 7, 1909.

### Butter.

Extras hold firm at 36 cents. Supply is very light on all grades.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

California extras per lb. .....36
California Firsts .....31
California seconds .....29
Storage extras .....30
Ladles .....25½

### Cheese.

California flats new .....15@18
Cal. Young America fy new ...17@19
Young American Oregon fy .....18½

### Eggs and Poultry.

Eggs are scarce. Fresh ranch extras stand at 55. Firsts have dropped 2 cents. Storage remain at 30.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:
Fresh ranch extras .....55
Firsts .....48
Storage extras .....30
Hens per doz .....5.00@9.00
Roosters per doz .....4.00@8.00
Fryers per doz .....5.50@6.00
Turkeys .....20@22
Geese per pair .....2.00@2.50
Ducks .....5.00@9.00
Pigeons young .....1.00@3.50

### Live Stock.

San Francisco prices gross weight:
Steers .....3½@4½
Cows and heifers .....2@3½
Hogs .....4½@7¾
Calves per lb .....4@5½
Milk Lambs .....6@6¼
Wethers No. 1 .....5¼@5½
Ewes No. 1 .....4.50@4.75

### Potatoes.

Wholesale market quotations:
River White crates .....75@90
River Whites, extras .....90@1.00
Salinas .....1.15@1.30
Oregons .....85@1.15
Sweet crates .....1.00@1.25

### Vegetables.

Wholesale quotations:
Cucumbers hot house per doz. 50@1.00
Celery, doz. .....50@1.50
Chili peppers per lb. .....3@6
Egg plant per box .....5@7
Green peas per lb. .....7@8
Mushrooms per lb. .....15@25
Okra .....75@90
Winter Rhubarb per lb. .....5@7
String beans .....6@7
Summer squash .....75@1.00
Tomatoes bay .....1.00@1.50
Tomatoes southern .....75@1.25
Wax Beans .....5@6
Lima beans .....7@8
Garlic .....4½@5

### Onions.

Yellow onions .....1.00@1.10

### Citrus Fruits.

New Navels .....1.75@2.50
Tangerines .....75@2.00
Valencias .....3.00@3.50
Grapefruit .....1.00@3.00
Lemons .....1.25@4.50
Limes .....4.00@5.00

### Fresh Fruits.

Bellflowers .....1.00@1.25
Newtowns .....1.25@1.75
Figs blk box .....50@75
Vendeis .....1.00
Other varieties .....50@75
Pomegranates .....50@2.00
Pears Winter Nelis .....1.00@1.75
Pears, cooking, box .....75@1.00
Persimmons .....75@1.25
Quinces .....50@1.00
Huckleberries per lb. .....8@10
Strawberries, chest .....12.00

### Dried Fruits.

Santa Clara prunes .....2⅝@3
1 cent premium for larger sizes.
Apricots per lb. Royal .....10@12
Peaches .....5½@7½
Apples evap .....8@9
Pears .....6@9¼
Figs .....3¼@5
Nectarines .....5@6
Plums .....7@8

### Raisins.

RAISINS—1909 crop, f. o. b.: Fancy Seeded, 16-oz. cartons, 5@5¼c; do, 12-oz, 4½c; do. choice, 16-oz., 4½@4¾c; choice, 12-oz., 4c; 50-lb. bxs. Loose Muscatels: Standard, 4-crown, 4@4¼c; 3-crown, 3¼@3½c; 2-crown, 2½@3c; Seedless Thampson, unbleached, 3c; do, bleached, 7@7½c; Sultanas, unbleached, 2¼c; do, bleached, 4@4½c; Muscatels, unbleached, 2¼c; Dried Grapes, nominal; London Layers, clusters, 2-crown, 85@90c; 3-crown, 90@$1; 4-crown, $1.30@1.50; 5-crown, $1.75@2; 6-crown, $2@2.50.

### Nuts.

Walnuts soft shell No. 1 .....13@13½
Walnuts S. S. No. 2 .....8@8½
Walnuts, hard shell .....13
Almonds '09 N. P. U .....13
Almonds '09 nonp .....14½
Almonds I X L .....14
Pecans .....15@17
Chestnuts .....14@15
Peanuts .....5@6

### Beans Dried.

Limas .....4.20@4.25
Pink .....3.70@3.75
Black eyes .....4.05
Small white .....4.85@4.95
Large white .....3.50@3.60
Red Kidneys .....5.10
Garvanzas .....3.00@3.25
Bayo .....5.15@5.25
Horse beans .....2.10@2.25
Cranberry .....4.60

### Hops.

Hops 1909 crop .....20@23
Hops 1908 crop .....17@20
Old .....10@13

### Honey.

White comb .....14@15
Light Amber .....10@12
Extracted W W .....7½
Extracted light amber .....6½@7
Beeswax per lb. .....25@29

### Hay.

Scott, Magner and Miller say:

Arrivals of Hay for the past week have been 2385 tons as against 3183 tons last week, showing quite a decrease. We believe this has been caused by dealers stopping shipments of their Hay, owing to their being overcrowded with the previous week's receipts, which were so difficult to move from the tracks without making large concessions to buyers, which meant large losses to themselves. Now that the tracks have been cleared, we look for another influx of Hay the coming week.

Our Oakland house reports very heavy receipts during the past week in that city; also that the demand is light and that concessions have to be made to effect sales.

On looking over the receipts on the San Francisco market for November 1908, and our market report of corresponding date of the same year, we find that there were 14,485 tons received in San Francisco during the month of November; that we noted in our market report that the market tendency was decidedly upward; that a little Foreign Hay was coming in from Nevada and Oregon; that the Interior demand was very strong, and that large quantities were being shipped to Los Angeles and other southern points, whereas this year, the receipts for the month of November were 11,882 tons, being 1600 tons less than last year, with a declining market, no Interior demands to speak of, the Los Angeles market lower than our own, and with no Hay coming in from outside States.

Both Alfalfa and Straw are quiet and inactive.

Choice wheat hay..... ..17.50@18.50
No. 1 wheat or wheat & oat 15.50@16.50
No. 2 Wheat or wheat and oat .....13.00@14.00
Choice tame oat .....15.00@16.50
Other tame oats .....12.00@14.00
New Crop wild .....9.00@13.00
Stock hay .....7.00@8.00
Alfalfa .....9.00@12.00
Straw .....55@65

### Grain.

Wheat No. 1 .....1.90@1.97½
Barley No. 1 .....1.40@1.47½
Oats white .....1.62½@1.67½
Oats gray .....1.62½@1.67½
Rye new crop .....1.85@2.00
Cal sm round corn .....1.75@1.80
Alfalfa seed .....16@18
Mustard brown .....3¾@4½
Millet .....2½@3
Flaxseed .....4
Broom corn seed per ton .....23.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton ....37.00@38.00
Cracked corn per ton .....38.00@39.00
Ground barley per ton ....31.00@32.00
Rolled oats per ton .....33.50@35.00
Oil cake per ton ... .....38.50@40.00
Cocoanut cake per ton .....25.00
Middlings .....36.00@37.50
Mixed feed per ton .....28.00@33.00
Shorts .....31.50@33.00

## Citrus Market

LOS ANGELES, December 8,1909.

The demand for navels has materially increased during the last week. The green tinge has largely disappeared and gives them a better chance with the large quantities of Floridas now filling the market. As soon as the trade becomes satisfied that navels are sweetening, they have a strong pull over all other varieties. The demand has tended to strengthen the market and to give a very slight advance.

Lemons are going forward about as usual and the few which the state is now able to send are picked up greedily and at most satisfactory prices. Foreigns are coming in to a limited extent but are not a strong factor.

**Shipments.**

Shipments from Southern California points to date since November 1st; 588 cars of citrus fruits of which 285 were oranges and 303 lemons. To same date last season there were shipped 644 cars of which 223 were oranges and 421 lemons. Since Noverber 1st, Butte County has shipped over 200 cars of oranges. The crop is the best in quality, size and production in many years, and will nearly all be on the market for the holiday trade.

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NEW YORK, Dec. 3.—Two cars Valencias, one car navels and one car lemons sold. Prices fairly firm on Valencias, but market slightly easier. Navels lower account poor quality. Lemons strong, active, advancing. Weather cloudy, threatening.

VALENCIAS—
Average.
Purity, ch, Tustin P Co. .....3.65
Old Oak, ch Tustin P Co. .....3.00
Lucky, Sd, Tustin P. Co. .....2.05
Old Mission, fy, Chapman .....8.05
Old Mission, ch, Chapman .....6.50
Golden Eagle, sd, Chapman .....3.95

Navels—
Bear and Eagle, fy Lindsey Cit A.1.65

LEMONS—
Windemere, ch, Randolph Ft. Co..4.30
Economy .....3.85

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CLEVELAND, Dec. 3.—One car lemons sold. Market very strong on lemons. Cool.

LEMONS—
Black Hawk A. H., Prenda .....4.75

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CINCINNATI, Dec. 3.—Cool. Market steady on lemons, depressed on oranges. Seven cars oranges and one car lemons sold. Florida Brights, 1.25 to 1.75. Russets, 1.25 to 1.65.

LEMONS—
Pet, S. A. Ex. .....4.55
Greyhound .....4.35
Duck .....3.75

ST. LOUIS, Dec. 3.—Cloudy. Market steady. Seven cars sold. Five cars Floridas sold, 1.50 to 2.45.

NAVELS—
Valley, T. C. C., Ex., Porterville ..2.15

LEMONS—
Coyote, O. K. Ex., .....3.90
Swallow .....3.65
Lark .....3.80
Blue Jay .....3.55

PHILADELPHIA, Dec. 3.—One car lemons and one car navels sold. Also 2300 boxes Florida oranges and grapefruit. Oranges, 1.40 to 3.05; average, 1.80. Grapefruit, 2.40 to 3.50; average, 3.05.

LEMONS—
Foothill, fy, Limoneria Co. .....3.55
Mountain View .....3.10

NAVELS—
Golden Orchard, fy, or, Ind. Ft. Co.1.85

BOSTON, Dec. 3.—Two cars sold. Weather cool, cloudy. Market is unchanged.

LEMONS—
Pet, S. A. Ex. .....4.85
Greyhound .....4.00

VALENCIAS—
Peacock, or Worthley & Strong....1.20

PITTSBURG, Dec. 3.—One car sold. Market fairly active. Cool. Two cars Louisiana oranges and five cars Floridas sold. Louisianas averaged 1.85, Floridas, 1.65.

NAVELS—
Hiawatha, T. C. C. Ex., Lisko ....2.45

NEW YORK, Dec6.—Three cars navels, one car Valencias and three cars lemons sold. Market firm on good stock Valencias, steady on lemons, improving on navels. Weather clear and mild.

VALENCIAS—
Old Mission Fy. Chapman .....7.40
Old Mission Ch. Chapman .....6.25
Golden Eagle Sd. Chapman .....4.00

NAVELS—
Mariposa Fy. Cal. Cit. U.....2.80
C K Town Hiawatha Imp I C C Ex.2.30
Chas K Town Hiawatha .....2.00
C K Town Blue Banner T C C Ex.2.20
Ella Tyler Blue Banner .....2.55
Puck Fy. F. H. Speich .....1.80

Lemons—XXX St. Ex. $4.20; EEE, $3.90; Lotengo Fy Sparr F. Co., $4.25; Del Oro, $3.45; Protection Fy. Ohio Lemon Co., $3.95; Buckeye Ch., $3.55.

PHILADELPHIA, Dec. 6.—Market steady on oranges, lower on grapefruit; 10,000 boxes Floridas, $1.40 to $2.70; average, $1.75. Grapefruit, $1.60 to $3.50; average, $2.60.

ST. LOUIS, Dec. 6.—Cold; market higher on navels; seven cars sold; one car California navels, six cars Floridas; Floridas sold from $1.40 to $2.25.

Navels—Red Label T C C Ex. Lindsay, $2.25.

BOSTON, Dec. 6.—Three cars sold. Weather favorable. Market unchanged.

NAVELS—
Hiawatha T C C Ex. .....2.10
Blue Banner Imp. T C C Ex .....2.10
Pride of West .....2.00
Hiawatha T T C Ex .....2.00

VALENCIAS—
Sunset S S Orange .....1.35
Sunset S S Orange .....1.15
Searchlight S S Orange .....1.45

PITTSBURG, Dec. 6.—One car sold; market continues strong on lemons. Ten cars Florida oranges sold, average $1.60.Two cars Louisiana oranges, $2.00 average. Weather cold.

Lemons—Mountain Crest, S A Ex, $3.25; Orchard Run, 3.70.

CLEVELAND, Dec. 6.— One car navels and one car lemons sold. Prices low on navels account condition and quality. Lower on lemons; cold.

Navels—Bear and Eagle T T C Ex., Lindsey, $1.40. Lemons—Palm Tree A H Prenda, $4.00; Commercial, $3.70.

CINCINNATI, Dec. 6.—Cool; market is depressed. Nine cars Florida oranges sold. No California stock. Florida Brights, $1.55 to $1.85; Russets, $1.35 to $1.75.

60 YEARS' EXPERIENCE

PATENTS

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Anyone sending a sketch and description may quickly ascertain our opinion free whether an invention is probably patentable. Communications strictly confidential. HANDBOOK on Patents sent free. Oldest agency for securing patents.

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MUNN & Co. 361 Broadway, New York
Branch Office, 625 F St., Washington, D. C.

## ALMOND COMMERCIALLY CONSIDERED.

(Continued from Page 589.)

meet the approval of every buyer and seller alike. Then why not?

Local associations, able to render much valuable assistance to each other in the way of providing spraying, hulling and shelling machinery, of promulgating advanced ideas as to varieties, production, detecting and fighting pests, proper curing and preparing for market, marketing, etc., is the first step. It should not be forgotten that uniform handling and standard grading will be necessary and of untold advantage to the grower. Nothing like it could be done which would so speedily put the almond production on a solid footing and relieve some of the other lines of orchard and vineyard production. It would bring multiplied wealth to our state, employment to our citizens by increasing production, and help to settle the food problem of the race, because it is one of the most valuable and condensed forms of food production.

At present there are organized associations of almond growers in Sutter, Yolo and Contra Costa counties, and in our own neighborhood we have a quasi association which handles 30 per cent. of our output. Every one of these associations has wrought good results for its members and the trade. Then why not extend the work of organization? Let the growers in every section or community organize an association and then all the associations select or form some central marketing exchange which shall do the marketing of the crop. This central exchange, with the foreign and home crop statistics before it, should determine what would be a fair price and should be given power to maintain said price. My word for it, the buyers would be just as glad as the growers to have this done if they understood it and they might be given a hearing in fixing the price, but always the growers' organizations should hold the deciding vote. This is a point which cannot be too strongly emphasized because it touches on the weakest point in our body politic today. The farmer and the fruit grower constitute the only class of people in the world wherein the producer does not fix the selling price on his own products. The manufacturer, the merchant, the professions, labor organizations, all say what their services and products are worth. Is it not high time for the farmer and fruit grower to wake up and take his stand along side of his fellow man? But it requires a Moses or a Joshua to mean success! Yes to be sure, and also be sure that whenever anything is right and needs a Moses or a Joshua, the Power that shapes the destinies of men and nations will not be found wanting with the man or leaders. It all means dollars for every one engaged in the business and that spells commercial success.

## ARTIFICIAL INCUBATION.

(Continued from Page 581.)

incubator does not have any, then air the eggs a good deal when it is warmest in the room and stir the outside eggs in, as they cool more quickly. However, at night the machine should be run high—103 degrees or a little more. If it gets low at night you can't air much the next day. If your hatch is right, notice the qualification, you can air the eggs several times slightly while the hatch is coming off but you can't if it is wet or sticky.

This is all there is to it: Even temperature the first half with much shifting, more ventilation the last half with more and more airing the eggs, not to run over 103½ degrees for long and not over 105 degrees in hatching time. All else is vanity and vexation of spirit.

Some take a pride in having chicks large and heavy when they hatch. This extra weight is only waste which the chick had better be without. Our chicks weigh when ready to ship about 1¼ ounces, but Minorcas as much as 1½ ounces each. With us it has been a matter of study for several years how to reduce the chick to its lowest weight which means a minimum of waste material absorbed. Fluffy chicks do not mean heavy chicks, the down has a tendency to grow long if temperature is rather low the last part of the incubation period and short if temperature averages high. We are now studying the wholesale brooding of chicks and we hope to give the Cultivator readers a report as to results in a few weeks.

## WHITE WYANDOTTES.

The White Wyandottes are especially adapted to California and are now one of California's most popular birds.

These beautiful birds of curves, are superior to their smaller sisters as fall and winter layers; when sold on the market bring more, and when dressed look much more tempting, being plump, with yellow skin and no dark pin feathers. Besides, white feathers bring more per pound when sold.

They do not suffer with the heat as do their larger sisters.

It does not require a high fence to keep them enclosed, they are gentle and docile and make good sitters and good mothers, are not lazy and are fast becoming the fancier's, market poultryman's and farmer's favorite in the West.—Mrs. C. D. Hubbard, San Fernando.

## Business Notes

### DO YOU NEED A TYPEWRITER?

If you are conducting any kind of a business or dealing with business houses you should have a typewriter. It was formerly considered a luxury; now it is a necessity. At $100.00, a machine is beyond the reach of the ordinary user. But the American Typewriter meets every requirement and is sold at the remarkably low price of $35.00. This may also be had upon small monthly payments.

We show a picture of this machine on page five hundred and seventy-nine in the advertisement of the William Peck Company. It is neat, compact, serviceable and will last a life time.

This company also handles typewriter supplies and sells them at exceptionally low prices. Their interesting catalogue will be sent free to those who write for it.

### NEW CATALOGS.

The Pioneer Hatchery Co., has the new 32 page illustrated catalog now ready. It contains articles on how to "Raise Baby Chicks" and another article 3 pages on "Poultry Pays." This is the largest book of its kind ever printed and is entitled the "Story of the Baby Chick." Mention this paper and send for it today, it's worth while. 1910 32 page "Success" Incubator book will be ready January 1st. Send your names today if you want these books. Pioneer Hatchery Co., 112 East 8th St., Los Angeles, Cal.

### ALL IN 144 PAGES.

The Aggeler & Musser Seed Co., of 113-115 South Main St., Los Angeles, has just issued its 1910 seed and plant catalogue. It has 144 pages of descriptive matter of all kinds relating to the garden. In addition on each page there are from one to four engravings more particularly illustrating the plants described.

In the last part of the book are tables of number of plants to the acre, calendar for planting and other useful [illegible] planters. It is a valuable little book and may be had for the asking.

One of the most pleasing calendars for 1910 that we have seen is the one sent out by our friends, the Vermont Farm Machine Company. It is in several colors and shows a pretty dairy maid in full regalia in the foreground, with a setting of trees, a running brook and a herd of dairy cows. And in the corner, is a United States Cream Separator. It is fitting that it should be there, because these famous machines make life a pleasure to thousands of dairy maids and dairy women throughout the world. The Vermont Farm Machine Co., Bellows Falls, Vt., inform us they will mail this calendar to readers of the Cultivator.

The Folding Sawing Machine Co., 158-164 East Harrison St., Chicago, Ill., whose advertisements appear in the Cultivator, have issued a very attractive and instructive catalog and price list. The book is so illustrated as to quickly convey the idea of the usefulness of the machine to the rancher. They have also arranged a table showing freight rates to the leading cities in each state so one can tell just what the machine will cost, delivered to your door. This book will be sent free to our readers if you mention the Cultivator.

CREAMERY SUPPLIES

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines and Boilers — Milk Coolers

PASTEURIZERS
MILKING MACHINES

Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

O. J. Weber Co.

225-227 East Sixth Street
LOS ANGELES . . . . . CALIFORNIA

MULES FOR SALE

Lot of good mules, just arrived, ready for work, can be seen at No. 1782 East Main Street, Los Angeles. Representative always on the ground to show them.

FREE BOOK

on application to

Coulson Poultry and Stock Food Company

Petaluma, - - Cal.

FARMERS' NAMES

Complete and authentic mailing lists of farmers on Pacific Coast. Prices right. Lists guaranteed on money back plan. Any other list you want. Only reliable Coast lists.

R. OPPENHEIM, 268 Market Street, San Francisco, Cal.

AUCTION

110 COWS 110

FRIDAY, DEC. 17 AT 10:30 A. M.

61 and San Pedro Sts., Los Angeles.

110 Holstein, Jersey and Durham Cows and Heifers. One 18 months old Holstein Bull.

95 of the very best selected Holstein, Jersey and Durham Milk Cows. 15 Heifers from best cows.

If you want something good in Milk Cows come and see this herd. These cows will stand inspection and you are invited to come and make a thorough examination of the herd before the sale. Would prefer you to see the cows milked and the milk tested. Average test of milk 4.6. Every cow guaranteed and will not be misrepresented. You can get a carload or two of either dry or fresh cows.

Terms: Eight months time on approved note. Liberal discount for cash. Free lunch.

J. B. DELL'ACQUA, prop.

Shoemaker Ranch, between Main and South Park Ave. Take 61st Street Car on Main St. Get off at San Pedro and 61st Street. Walk south on San Pedro Street. Carriages in waiting.

BRIGGS & WEBBER, Aucrs.
225-227 E. 6th St., Los Angeles.
Phones F-3657—B'dw'y 5006...

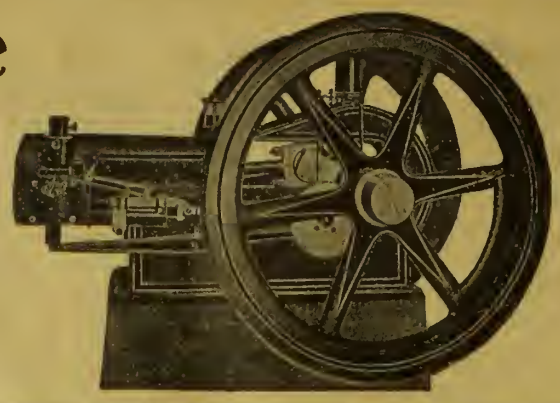
# The Western Engine

Will keep right on { Pumping / Pumping / Pumping

YEAR IN AND YEAR OUT.

Using least fuel
Requiring fewest repairs
Lifting most water

**WRITE FOR CATALOGUE**



# Western Gas Engine Company

Builders of Gas and Distillate Engines and Hoists.
Engineers and Constructors of Power Plants of every size and for every purpose.
Sole manufacturers of the Nix-Frost Crude Oil Gas Producer, (Patented). "The Cheapest Power on Earth."

**Factory and Main Office:**
**Los Angeles, California**

Northern Branch:
San Francisco, California

# The Smooth Running Pomona Deep Well Pump

**RELIABILITY**

Has passed through another most successful season's run, this being the fifth since starting.

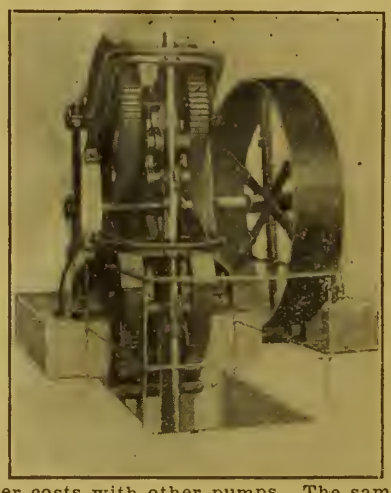
There is no experiment in buying a POMONA PUMP. All the parts have been tried out and fully perfected. They will do the work we know and do it well.

We have records of plants that have made three seasons' run without one cent for repairs of any kind.

**ECONOMY**

May be driven by a steam engine, gas engine or electric motor, and in any case will give you the cheapest water and pay dividends on your stock.

Any Water Company going into the Irrigation business will run no chances in buying the POMONA PUMP. They are built heavy and strong. All the wearing parts are Bronze Bushed or Babbitted and will last a lifetime with the smallest outlay for repairs.



We can refer you to customers who are operating their POMONA PUMPS for less than one-half cent per inch per hour on 200 feet lift. This is less than half what their water costs with other pumps. The same make of engine being used in both cases.

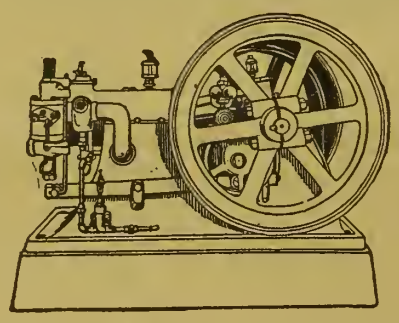
Send for illustrated catalogue to—

**POMONA MANUFACTURING CO.**
**POMONA, CALIFORNIA**
**Branch at Porterville, California**

# Alamo and Union Distillate Engines

**New Stock just Received**

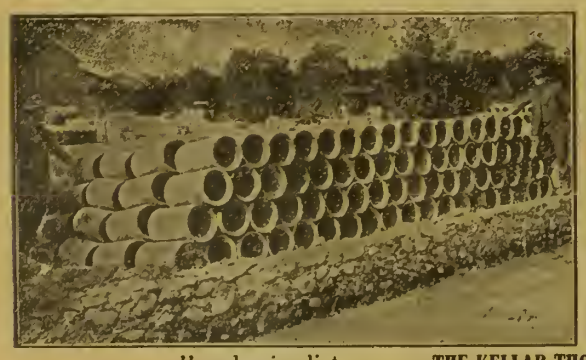
Strong
Economical



Easily Operated
Prices Right

Electric, Steam and Gasoline Irrigating Plants Installed.
We buy sell, exchange and rent machinery.

**Bailie & Brandt Company**
ENGINEERS
**Office and Works, 943 N. Main St., Los Angeles**
Write for particulars.



From photograph showing amount of

**Ten-Inch Pipe**

made by four men from 10 bbls. of cement in 9 hours — 280 two-foot joints, or 560 feet. This pipe was made with the

**"K T" Moulds**

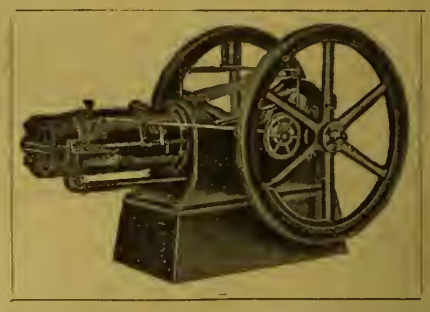
An equal amount can not be made with any other tools in the same period of time. Write

" and price list.

**THE KELLAR-THOMASON MFG. CO., Covina, Cal**

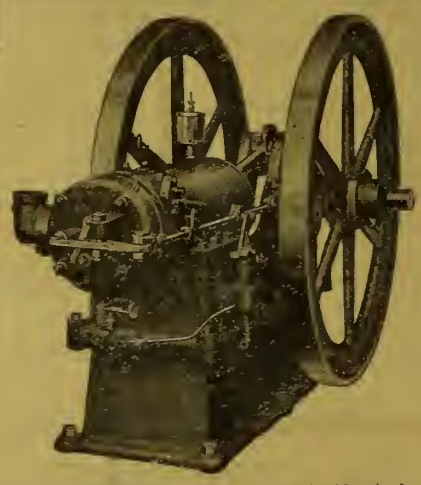
# Not too Heavy Not too Light But Just Right

Send for Bulletin No. 12.



**COMMERCIAL ENGINE CO.**
**951-955 No. Main St., Los Angeles, Cal.**

# Stover Distillate Engines



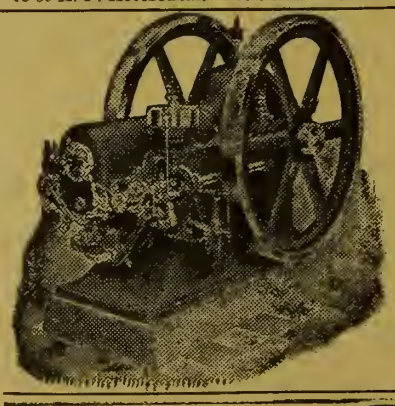
to 50 H. P. Horizontal. 2 to 9 H. P. Vertical.

So simple and yet so perfect.

Portable and Stationary.

Complete Pumping Plants Installed.

**LIVINGSTON & LEE**
**354 So. Los Angeles St.**
**Los Angeles, Cal.**



# Another New Gas Engine

Is amongst us and if you are in need of power you should investigate this one. You will find that it possesses the most desirable features of all the old timers and the price is right. Plenty of catalogues for distribution.

**Henshaw-Bulkley & Co.**
**262-264 So. Los Angeles St., Los Angeles**

# The Centrifugal Pump

shown by this cut represents the ideal irrigation pump for large capacities and low lifts.

Write for Bulletin No. 32.

**BYRON JACKSON IRON WORKS**
**351-355 Market St., San Francisco** **212 N. Los Angeles St., Los Angeles**

# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles December 16, 1909 San Francisco


## Fruit Growing Scenes in the Pajaro Valley

ONE OF THE FAMOUS PAJARO VALLEY APPLE ORCHARDS.

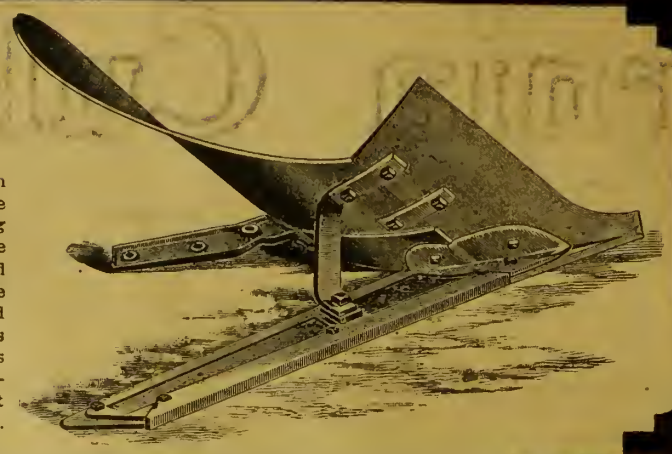
WATSONVILLE STRAWBERRY FIELD.

Courtesy of Pajaro Valley Board of Trade.

# EVERYTHING FOR THE RANCHER.

## Syracuse Steel Plows

Mr. Rancher, look at the illustration in this advertisement of the way the bottom of a Syracuse Steel Walking Plow is constructed. Then if you are interested write for 80-page illustrated catalogue of Syracuse plows, catalogue No. 29. We will promptly forward catalogue on application. These plows are for sale by the leading dealers throughout the country. If your dealer does not carry them write us direct and we will name you delivered price.



QUALITY ARNOTT GUARANTEED

ARNOTT & CO. INC. 112-118 S° LOS ANGELES ST., LOS ANGELES, CALIF.

QUALITY ARNOTT GUARANTEED



# Plants Seeds

## Superb--Everbearing Strawberry Plants

***Giant Himalaya*** Blackberry, the greatest cropper of all berries. Loganberry, Phenomenal Berry and Dewberry Plants.

**Reliable Garden and Flower Seeds**

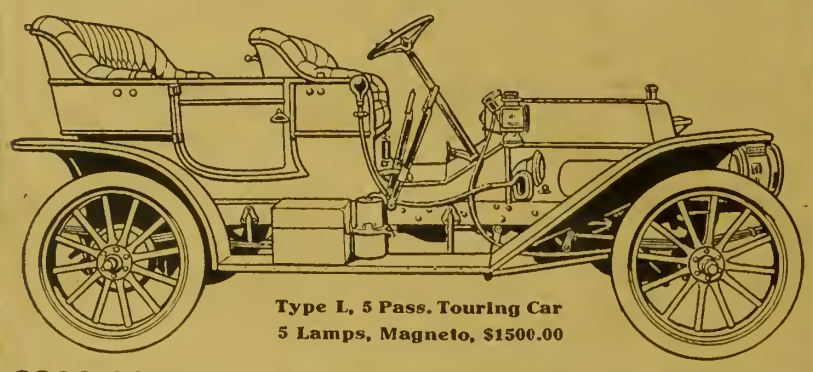
at honest prices. Don't fail to ask for our catalogs. Everything for the Farm and Garden.

## G. H. Hopkins & Son

**BURBANK, CAL.**


Every plow team in the southern part of the state is busy since the last rain.


# 1910 Durocar



**Type L, 5 Pass. Touring Car**
**5 Lamps, Magneto, $1500.00**

**$200.00 More Value for $100.00 Less Is What**

you get in the 1910 Durocar. Equipped with Large Wheels, Magneto, Powerful and Simple Durocar Engines Guaranteed for One Year. You can buy direct from the California factory. Write for Free Catalogue.

## DUROCAR MFG. CO.

**Factory and Salesroom 933 S. Los Angeles St., Los Angeles, Cal.**



# THE A-F GRAVITY CONVEYORS

Are now required for all Fruit Packing Houses which seek to economize and systematize the handling of fruit. Trucks should be abandoned and A-F Gravity Conveyors installed for carrying boxes from packers to presses, thence to storage and cars.

**SEE THE A-F CONVEYORS IN OPERATION AT**

**Tule River Citrus Ass'n., Success, Cal. Lindsay Packing House Co., Lindsay, Cal. East Highlands Fruit Ass'n., E. Highlands, Cal. Mountain View Orange and Lemon Ass'n., Upland, Cal. Pacific Coast Seeded Raisin Co., Fresno, Cal. Griffin & Skelly Co., Dinuba, Cal.**

**COAST AGENT**

**Jas. M. Pitkin, Grand Hotel, San Francisco.**

## THE ALVEY-FERGUSON CO.

**INCORPORATED**

**LOUISVILLE, KENTUCKY.**



# The Brownsberger

**953-7 West Seventh Street**
**Los Angeles, California**

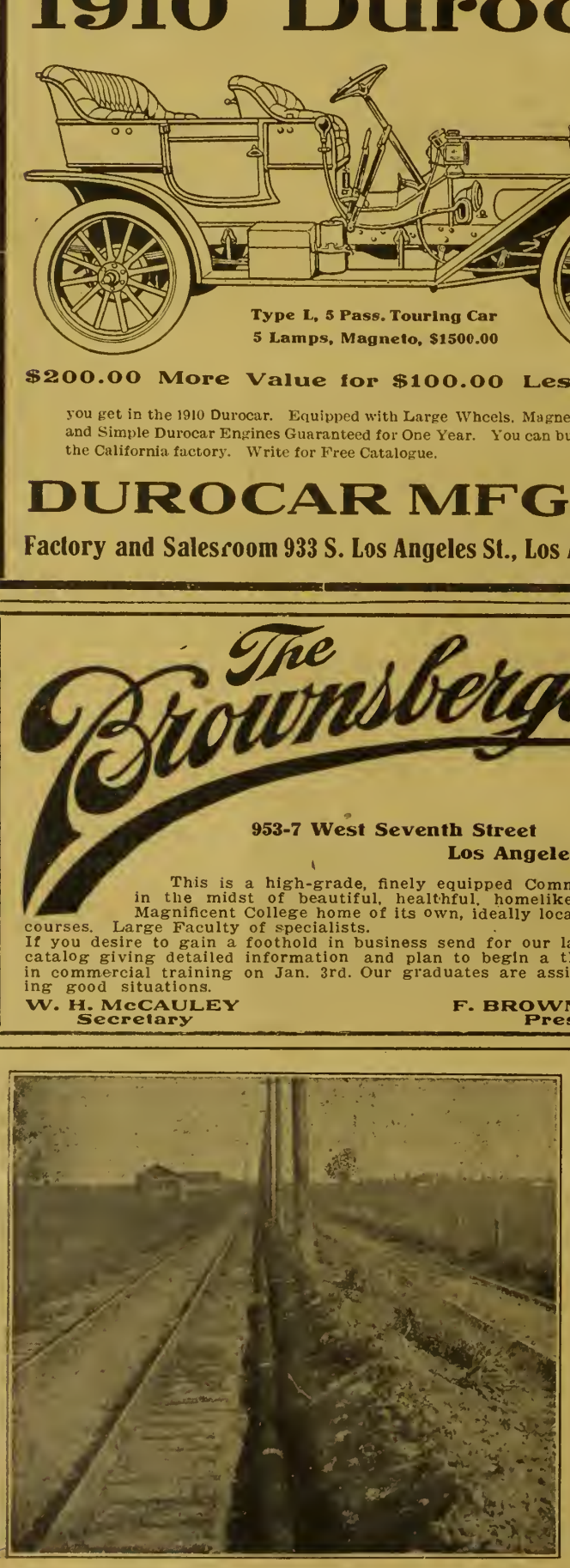
This is a high-grade, finely equipped Commercial College, in the midst of beautiful, healthful, homelike surroundings. Magnificent College home of its own, ideally located. Thorough courses. Large Faculty of specialists.

If you desire to gain a foothold in business send for our large illustrated catalog giving detailed information and plan to begin a thorough course in commercial training on Jan. 3rd. Our graduates are assisted in obtaining good situations.

**W. H. McCAULEY**
**Secretary**

**F. BROWNSBERGER**
**President**





# Wood Pipe

Made from California Redwood or selected Washington Douglas Fir

**2 Inches to 10 Ft Diameter**

**National Wood Pipe Company**

**Los Angeles Office: 404 Equitable Bank**
**San Francisco Office 318 Market Street**
**Portland, Oregon, 210 Wells Fargo Bldg**

Address Nearest Office as Above.

***WRITE FOR NEW CATALOGUE***

# Madary's Supply House

***Is the Largest West of the Rocky Mountains***

***FOR BEEKEEPERS***

All kinds of bee supplies, berry boxes, grape baskets, etc. The best goods and the lowest prices. Personal attention to correspondence and prompt attention to orders.

***Warehouse and Salesroom, 733-9 Aliso St.***
***Phones—Sunset, Boyle 168; Home 41125***

**C. H. CLAYTON, Agent, Los Angeles, Cal.**

# ROSENEATH EGG RANCH

OSWALD M. ROBERTSON
ARLINGTON, CALIFORNIA.

## *Wyckoff White Leghorns*

Day-Old Chicks $10 per 100, $90 per 1000. Booking orders now. My incubators are working now



# Grafted Walnuts a Specialty

***20,000 Trees, Grafted and Seedlings***

Grafted trees grafted on Northern black and California soft shell roots. Seedlings grown from selected nuts from grafted trees selected by myself. Grafts 1 and 2-year old. Place your orders early to avoid the rush and get the best trees. Some orange and lemon trees still unsold. Eucalyptus in any quantity in 4 leading varieties.

**Whittier Nursery** — ***Est. 1887 by Present Owner*** — ***Home Phone 288***

**Chas. H. Hamburg** — ***Whittier, Cal.***



# CHICO NURSERY CO., Chico, Cal.

We have just what you want to plant this coming season.

***APPLES, PEACHES, PEARS, PRUNES, CHERRIES and ALMONDS.*** Also a good stock of ***GRAPE VINES, BERRIES, ORNAMENTAL TREES, SHRUBS*** and ***ROSES.***

Catalog free. ***CHICO NURSERY COMPANY, Chico, California***

# California Cultivator

Vol. XXXIII—No. 25 Los Angeles, California, Thursday, December 16, 1909 Subscription $1 a Year


# Thirty-Sixth State Fruit Growers' at Watsonville

## Editorial Correspondence from One of the Most Instructive Meetings Ever Held Under the State Commission.

IT RAINED! It not only rained but came in sheets and chunks. From the first day until the middle of the last day of the thirty-sixth State Fruit Growers Convention held at Watsonville last week the rain did its best to dampen the ardor of its delegates. Notwithstanding that, the convention was one of the most successful ever held in the state, at least one of the most successful in that the program contained much of interest in the excellent addresses made, also in the attendance from nearly every part of the state. Even Southern California was well represented from almost every county. To give even a hint of the value of the addresses made before the convention will require many issues of the Cultivator. Two of these addresses were given last week, two will come in this issue, and others will follow. We do not believe any former convention brought together as many valuable papers as did this one. Unfortunately the program was too long, which deprived the delegates of the privilege of discussion, usually the most valuable feature of the convention.

**Cordial Reception.**

One feature which gave great pleasure to the delegates was the hearty reception tendered all visitors by the good people of Watsonville. The rooms of the Pajaro Valley Board of Trade were made headquarters. One of the first things called to the attention of the delegates on the part of Secretary Gretter of the Board and the reception committee was the barrel of cider with glasses handy, together with boxes of apples equally as free for the use of the delegates. The first thing to meet the writer's eye was a circle of delegates in the middle of the room, which at first had the appearance of an exceedingly warm discussion, but a close investigation showed the circle to be about a tub of apple peelings, each fellow peeling his own apple and saying nothing.

The rain deprived the delegates of the pleasure of a trip through the valley, which was scheduled for Thursday afternoon. This was in part made up by an exhibition of lantern slides of Pajaro Valley views and a "Letter to Ned" by "Majah" Judd. In fact we heard one delegate remark "that the best thing in this whole convention is Judd." Everybody knows Judd, but to refresh the minds of our readers as to who he is we may mention that one of the warm discussions around the tub of apple peelings was on the question "Resolved, that Judd's equator is longer than his meridian lines." The decision could not be reached until one of the boys suggested that decision be deferred until we visited the cider barrel. The unanimous verdict then was that "the cider is good." But seriously, Mr. Judd is one of those genial, whole-souled fellows with a smile for everyone, a smile so long that it reaches clear around behind, and was a great factor in making the delegates feel at home and adding enjoyment to every feature. Of course, C. H. Rodgers was another strong factor and everywhere and at all times was trying to meet the wishes of every delegate.

The ladies of the valley showed their hospitality and enthusiasm for the Convention by coming through the driving storm of Wednesday evening to tender a formal reception to the delegates.

PAJARO VALLEY SPUDS.

The ladies' orchestra and other musical talent of the valley added greatly to the pleasure.

**Resolutions.**

As usual the Convention was long on resolutions. The Resolution Committee was Messrs. Geo. D. Kellogg, Newcastle, J. P. Dargitz, Acampo, A. N. Judd, Watsonville. The hardest fought resolution was the one calling for revision of the horticultural quarantine laws. The Watsonville delegates were a unit in demanding a revision. The restrictions of the law are such that it makes its proper enforcement embarrassing. Tulare county growers have also found this to be the case. There is nothing in the law which permits allowing any expense funds to inspectors. This has compelled the Tulare county growers to raise funds of their own to bear the expenses which the inspector has to undergo in going from one part of the county to another. Watsonville delegates also wished to have a provision of the law which would permit the appointment of an entomologist or specialist to investigate any questions which require more talent or time than would be at the command of the inspector. State Commissioner Jeffrey and some others opposed the resolutions, but it seemed to be the wish of the attendants that an investigation be made and a report be made before the next convention, which would be before the next legislature and accordingly the resolution finally carried, endorsing the appointment of a committee.

One other resolution which occasioned some comment was that introduced after the address of Arthur R. Briggs, president of the State Board of Agriculture. President Briggs took the ground that Dr. H. W. Wiley, Chemist of the Department of Agriculture, should not hold the position which has been given to him under this government. In fact he did not mince his words at all that Dr. Wiley should be removed. The rank and file in the convention declined to take such a radical position but at the same time did pass a strong resolution endorsing the work of Mr. Briggs and commending him for securing as much as he has for California fruit growers.

Another resolution called for the appointment of a committee and authorized it "To compile from Congressional records the action of every Senator and Representative from California upon any phase of the parcels post which may come before Congress and supply the same to the press of the state." This committee as appointed by the resolution is made up of Edward Berwick, Monterey, John S. Dore, Fresno, and C. B. Messenger, Los Angeles. The point sought in the appointment of this committee is to bring to the attention of people those legislators who are friendly to the interests of the people and likewise those who are friendly to the express companies.

One resolution suggested that fruit growers of the state "begin keeping a record of the production as to quality and quantity of fruit, behavior of tree, time of blooming and ripening, also data as to any tree in orchard exceptionally valuable and after five years proving the continuous value and fixed quality these trees and records be offered to nurserymen for propagation as pedigreed fruits." It was further urged that all nurseries propagate only the best and most vigorous stock and that buyers should also refuse to buy inferior or "second" stock at any price.

(Continued on Page 610.)

TREES

Largest and best grown stock in the South. **Orange** and **Lemon, Apple, Peach, Pear** and other deciduous fruits. **Olives, Eucalyptus, Roses** and **Ornamentals.** Write for a copy of our **New Illustrated Catalogue** and let us figure on your requirements.

ARMSTRONG NURSERIES
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**THE BUYING OF CITRUS TREES**
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# Citrus and Sub-Tropical Fruits

## POMOLOGICAL CLUB.

THE Claremont Pomological Club held an interesting session at the home of Miss Stratton at La Verne, over 100 members and visitors being present. The principal feature, next to the bountiful dinner, was an exhibition of the Jewett Rotary Cultivator which was shown in practical orchard work and universally commended as a destroyer of plowsole and an excellent orchard implement. This tool was described in a former issue of the Cultivator.

Mr. V. V. LeRoy, secretary of the Club favors us with notes of the meeting from which we take the following:

In the discussion which followed the exhibition, a great many valuable points were brought out. It was generally conceded that six inch cultivating and eight to ten inches plowing is best for keeping orchard soil in proper tilth. For sandy or gravelly soil a lesser depth may be permissible. Sandy soil need not be cultivated between irrigations if a good dust mulch has been secured. The heavier soils should be cultivated as often as possible to do so. Some suggested that in heavy soil they would use a deep working subsoiler through center of row in late fall to facilitate the catching and holding of rainfall. Plow before cover crop is planted and get soil in fine condition for seed bed. Give the cover crop a good stirring when you can get a good stand to plow in by January or February. After plowing in be sure to disk the soil to break up the air spaces made by turning over the sod. After irrigating, cover in your furrows with a cyclone weeder or some such tool, then always cultivate crossways first as it is easier on your horses and you can do better work.

If you have water enough, use four furrows in old groves, but only one near the trees in young groves to force your feeding roots down as the trees grow. Mr. Jas. Mills of Riverside, said he had forced his tree roots to go down nine feet. Mr. Rumsey of Riverside, gave as his experience that orange tree feeding roots didn't go but two feet deep, and that splendid results were obtained. Others maintained that the roots could be made to go after the moisture as deep as nine or ten feet. Don't leave cover crops too late. Get them under in January or February sure. If necessary fertilize your cover crop with commercial or barnyard manure to make it grow. Especially in light sandy soil give an application of commercial fertilizer before sowing your cover crop so that it will be large enough to plow early. Root pruning sometimes is a good thing to increase crops if one has too heavy wood growth and little fruit. Mr. Mills was very emphatic as to fertilizing a little more than is absolutely needed.

"Don't have a tree infested with scale on your place. It is money out of your pocket, not to say anything about the harm you do your neighbor. At Redlands a prominent, influential owner, not an orchardist, couldn't see the use of fumigating. He was asked repeatedly to clean up but no one wanted to force him. His neighbor at last asked him to let him fumigate four rows of his orchard just to show him that it paid in dollars. He agreed and the next year the four rows had over four times as much fruit as the other rows." "Do anything possible to keep the red scale from spreading." said Mr. Mills. "When it gets in it will cost you enormously to get it out, if you ever do. Ten years ago we spent $45,000 on the Arlington Orchards cleaning up."

"Don't fail to grow a cover crop. It is the cheapest way to get humus and you must have humus. Commercial fertilizer is of no value without humus. By putting plenty of humus in the soil you make available much of the natural fertilizer, now unavailable in the soil. Humus also holds the moisture. Under the microscope much of our soil looks like cobble stones piled in a heap. Put humus into it and it looks like a sponge. A cubic foot of soil with plenty of humus will hold eight times as much water as without."

"Use nitrate of soda early in the spring in February and March if you want to stimulate the growth and blossoms. Nitrate of soda is better at that time because it is at once available while other forms of nitrogenous fertilizer require to be transformed from ammonia to nitrites to nitrates before the tree can use it. This is done by different kinds of bacteria which only work in warm temperatures, hence the ordinary fertilizers used do not become of value to the tree until the soil becomes warm later in the season. Five feet of barnyard manure well scattered is worth eight feet in lumps.

## ANOTHER WHITE FLY IN FOLRIDA

The attention of orange growers is called to the discovery for the first time in this country of a new species of white fly attacking citrus trees. In view of the wide-spread havoc played among the orange groves of Florida by the citrus white fly and the spotted wing white fly, the appearance among the orange trees at Tampa of another white fly which already has demonstrated itself to be of economic importance, is of interest.

During a recent examination of orange trees along several of the streets in the business section of Tampa in connection with the government white fly investigations being carried on in Florida by the United States Department of Agriculture, attention was attracted to dense white or grayish wooly secretions concealing the under surfaces of many leaves. Later microscopic examination has proved this to be a species known for several years to infest the orange trees on several of the islands of the West Indies, and especially Cuba.

Very little is known of the capacity for injury possessed by this aleyrodid. Mr. C. L. Marlatt, assistant chief of the Bureau of Entomology, found it quite abundant locally on several of the old orange trees at Artamisa, Cuba, in 1905, but noted that it had spread but slightly at that time into the surrounding groves. When describing it for the first time in 1907, Mr. A. L. Quaintance stated that, judging from its abundance on leaves sent the Bureau of Entomology from Cuba, it was a very serious pest of the Cuban orange, possibly rivaling

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Pear growers of the San Joaquin Valley are planning to plant more extensively this year than in the past.

the citrus white fly, so well known in Florida. Whatever damage it is causing in Cuba, where it may be partially controlled by parasitic and predacious enemies, it has shown itself capable of rapid multiplication and spread in its new home at Tampa. Notwithstanding the fact that it has not been observed in Florida before, although many of the trees now heavily infested have been under casual observation during 1907 and 1908, it has become well established over a very large portion of the city, spreading northward beyond Michigan avenue and eastward into Ybor City. Trees across the Hillsboro river, on the grounds of the Tampa Bay Hotel, are well infested, hence it is safe to presume that the pest is well established in the western part of the city.

From the present infestation it is quite apparent that the insect first became established in this country near the water front. In this section neglected worthless trees along the streets and in door yards are in many cases heavily infested. While it appears to be rivaling the citrus white fly in the extent of its attack on some trees, it is improbable that it is capable of causing so widespread disaster. Yet if it once becomes abundant in a grove, it will prove a source of no little aggravation and discomfort to those working in the trees because of the large and extremely viscid drops of honey dew which collect over the bodies of the insects, and later become embedded in the copious waxen secretions.

In general appearance, the adults of this white fly very closely resemble those of the citrus white fly. Their wings are pure white, without traces of darker markings. Unless disturbed they lay their eggs in a complete circle and in this respect differ from the citrus or spotted-wing white flies. The immature stages, however, are very distinct from the last two species mentioned. When well grown they are shining black or brownish, with copious long hair-like secretions of wax, which are often much longer than the insect from which they arise, and when the latter are abundant, form such a dense matting over the insects as to completely conceal them from view. They are further distinguished from the white flies previously known to infest orange trees in Florida in that each insect carries on its back an unusually large drop of honey dew. This is a sweet secretion from the body which is so viscid that it feels like molasses when gotten on the hand. On the whole, this is one of the most easily recognized of the species of white flies.

What the future possibilities of this pest in this country are to be, remain to be seen. It is, however, important that growers be on the watch for it and report its presence to the State Experiment Station at Gainesville, or to the Government White Fly Laboratory at Orlando. A technical description, together with photographs and drawings published by the United States Department of Agriculture will soon be available for distribution.—Florida Fruit and Prod. News.

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Anaheim has a new citrus growers association affiliated with the California Fruit Exchange.

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One Fullerton, Orange county, farmer is curing two and a half acres of fine tobacco.

## TO WIDEN THE FIELD.

The meeting of the board of directors of the citrus Exchange which was held on Wednesday last was one of considerable importance. Nearly the entire board was in attendance, and several out-of-town visitors were on hand taking notes.

Among other matters up for consideration was that of widening the field of the Florida orange. The time was when about all the oranges eaten in these United States were gathered from the groves of Florida. For some years past the enterprise and bustle of the California growers have been directed to the pushing of the fruit from that state to the front, while the growers of Florida have put forth no effort to hold the field. The result has been that the Florida orange has had little demand in some of the markets.

This state of affairs has been brought about by California not by "knocking" the Florida orange, but by attending strictly to business in advertising the merits of its own fruit, and it has not been niggardly in its expenditures for the purpose.

Taking cognizance of these facts the Florida Citrus Exchange has determined upon a vigorous campaign to the end that Florida's pride may find its way again into the highways and byways of the eastern part of the continent at all events. And so General Manager Gillett has been ordered by the directors to visit the eastern and northern markets and those of the middle states to inspire the men at the front. He will have on hand plenty of literature calculated to bring the Florida orange to the attention of lovers of this luscious fruit, and he will also make liberal use of the advertising columns of newspapers in those sections where there is the least call for the Florida orange. Mr. Gillett will leave on Sunday next to be gone a fortnight or more.—Florida F. & P. News.

## ENTHUSIASTIC OVER THE ORANGE.

A newspaper man at Arcadia, Florida becomes sentimental over the golden fruit and writes:

Oranges, oranges, the golden fruit that long ago made the Land of Flowers famous in history everywhere. They are on trees in front yards; they are hauled in double-decked wagons through the thoroughfares; they are overflowing the sizers at the packing plants; they are down town in the show windows and they are on sale at the fruit stands, and little tots lug them to school and boys play ball with them, and the peachy-cheeked, sunny-tressed girls feast on them, and oh, they are so very, very delicious! The best oranges in the world are grown in Arcadia.

Arcadia alone will send out some four hundred thousand boxes of the yellow globes. Later the right-of-way will be given over, so to speak, to the orange wagons, to the orange growers' autos and to the pickers. packers, shippers, and the famous fruit will go north hurriedly. And then you shall see Arcadia in full dress, orange dress. and receiving gracefully at the three handsome banks late afternoons, in fact, until the cows come home.

---

The large olive pickling works at Oroville is employing about 60 hands in its works and about 400 in the olive orchards gathering the fruit.

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Engineers have estimated the total cost of the Iron Canyon Dam at about four million dollars.

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shown herewith is thus described by the book, is such a handsome plant the Nursery Department gives it first place. The flowers are pure white, with great sweetness, make fast friends everywhere, they are very hardy and thrive in almost any soil, making both ornamental and desirable specimens for Lawn or Garden.

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# Deciduous Fruit Culture

## THE LATEST DEVELOPMENTS IN FIG CULTURE.

**By Walter T. Swingle and G. P. Rixford, Before the State Fruit Growers Convention.**

FOR the first time in the history of Smyrna fig culture in California, the markets have this fall been partially supplied with home grown Smyrna figs that many experts pronounce equal to the product of the famous fig district of Asia Minor. We say partially, because the quantity offered is not one quarter part of the requirements of even the local markets. The writers know one buyer who never handles any but the best of everything, who wants ten tons of a certain pack put up at Reedley, Fresno county. This particular producer could furnish only about four tons from his young ten acre orchard. This is certainly an encouraging outlook for the industry and holds out the promise that when enough such figs are packed to supply the American market, the million dollars annually paid to the Turks will be paid to the California fruit grower.

The Smyrna is the best of all figs grown in the world and nowhere equalled in the eastern hemisphere outside the limited area of the Meander Valley, a district about 75 miles in length and 10 to 12 miles wide situated about 50 miles southeast from the city of Smyrna. The figs of Southern Europe, including Spain, Portugal, the south of France, Italy and Greece, as well as the north of Africa, all fig growing countries, have failed to yield a product which for tenderness of skin and delicacy of flavor compares with that of the Aden district mentioned above. It is therefore a matter for congratulation, that only in the sunny valleys of California, of all the world, can this delicious product be equalled.

One of the writers recently sent samples of the product of two growers at Reedley and one at Selma to the U. S. Department of Agriculture at Washington that must have produced a sensation, as a telegram was immediately received to send ten or twelve pounds more for exhibition purposes. The Department has taken a deep interest in the establishment of the industry on the Pacific Coast and is evidently impressed with the progress that has been made. In fact the industry has to a great extent passed the experimental stage.

### A Visit to the Principal Fig District.

At the instance of the Department it was the pleasure of one of the writers, two weeks ago, to make an extended visit to the fig growers of the central part of the San Joaquin Valley, in the counties of Stanislaus, Merced, Madera, Fresno and Tulare, where the industry has its greatest development, largely due to the efforts of Mr. Geo. C. Roeding of Fresno. More than a thousand acres have been planted in these counties, more than half in Fresno, most of which have reached the bearing age. There was a twofold purpose in this visit; one was to see the men who are putting up the splendid product, samples of which are here presented for your inspection, and the other was to ascertain the cause, and if possible, suggest a remedy for the discouragement known to exist among a portion of the growers. It cannot be denied that failures have been made and in a few instances bearing trees have been dug up. But it is a satisfaction to be able to say that with a little time and attention to details, the cause of the failures can be removed.

### Cause of the Failures.

With soil and climate well adapted to the industry, it is regrettable that any failures should have occurred. Intimate contact with a large number of growers has impressed the fact upon the writers that the great and paramount cause of failure is an inadequate supply of the fig wasp, Blastophaga grossorum. The crop depends absolutely upon the number of this minute, but beneficent insect that is supplied to the Smyrna trees and upon a sufficient number of good capri trees to support them. Here then is the condition of affairs with which we are confronted. Some growers have no capri trees at all, having neglected to plant them when putting out their Smyrna orchards. Many more have too small a numbe and not of the best kinds, while in some instances the trees are scattered about in the Smyrna orchards at considerable distances apart—too far for the trees to properly assist each other in sustaining the insect through the year. Occasionally a grower is met with—and fortunately the number is very small—who has perhaps mistaken his calling in becoming a fruit grower. One such in speaking of his small Smyrna crop, was asked if he had a good supply of caprifigs and the fig wasp. Replying, he said "there was a good many bugs flying about his place and he thought he was getting his share." It is not surprising that his crops are small.

In that portion of the San Joaquin Valley mentioned, the principal capri varieties are Roeding's No. 1, 2 and 3. While these varieties are excellent in some respects, others can be added to the list that will give much value to the whole. Some think that No. 1 is the best of the three, and it is valuable in producing an early profichi or spring crop. No. 2 seldom bears a mamme or overwintering crop, though an abundant profichi crop, and must therefore be planted where it can be fertilized by other capri trees. No. 3 generally carries a fair mamme and a good profichi crop. As some capri trees fail to produce all the crops required for the support of the Blastophaga through the year, it is recommended that several varieties be planted, that they may fertilize each other and thus with more certainty furnish an abundant supply of profichi wasps in early summer when required by the Smyrna trees.

### The Milco Capri.

Among the most valuable capri trees is the Milco, named after the late G. N. Milco of buhach fame. This tree has been under observation by one of the writers for some years in widely separated localities and under varying conditions of soil and climate and he has never found it to fail to carry an abundant mamme, a fair mammoni and a large pro-

fichi crop. As a striking evidence of the value of this variety it may be mentioned that a number of old trees, giants among their fellows, have been found that have carried the insect unaided by the proximity of other trees, for forty years. Some growers rely on this variety alone and never fail to have an abundance of fertilizing material. While one of the earliest producers of profichi figs, it is also one of the latest, and possesses the virtue of giving steady succession of profichi from the heginning to the end of its season. Most capri trees when under five years of age fail to carry an overwintering crop, hut the Milco is one of the most precocious in this respect of the whole list under observation. This tree then with our present knowledge of the hundred

It was supposed that the fig wasp was first sent to the new world from Algiers by one of the writers in 1899, but the discovery of the insect on the Gates and Lathrop trees, proves that the first introduction antedates that of 1899 by more than 30 years. A question of much interest in connection with the Gates and Lathrop trees is, how did they become occupied by the Blastophaga. W. B. West probably imported more fig trees than any other man in the state. In 1865, two years before the Gates tree was planted, he imported 22 varieties from the south of Europe by way of Panama, the first overland railroad not then having been completed. As it was possible only for the insect to he brought over in the caprifig itself, it is reasonahle to suppose that the trees imported by Mr. West carried mamme figs containing the insect and that it was estahlished

ANTELOPE VALLEY PEARS.
Courtesy Antelope Valley Ledger.

or more varieties now in cultivation in this state, is confidently recommended as one of the most desirahle to plant.

### History of the Milco Caprifig Tree.

In this connection it may he of interest to give a brief history of the first introduction into this country of the caprifig tree and the Blastophaga. On the ranch of Samuel Gates, ten miles west from Modesto, stands an ancient capri tree ahout 45 feet high with a spread of branches of 40 feet and a trunk eight feet in circumference just helow the hranches. The tree was planted in 1867 by Lewis Adams of Stockton, who purchased it with other trees from the late W. B. West, an enterprising and intelligent nurseryman of the same place, well known to many of the older fruit growers of the state. Of these old capri trees of which the Gates is one of the oldest, more than fifty have been located hy one of the writers. About 30 are growing in the vicinity of Ripon, two near Lathrop, seven at Stockton and about a dozen near Milton. Some of these trees are about as old and ahout as large as the Gates tree, and we have positive proof, have carried the Blastophaga for about 40 years. A numher of them have been traced directly to the West nursery and as they are all of the same variety, there is little doubt that they all came from the same source.

in the Stockton nursery before the trees were distrihuted. As all these old trees are of the same variety and most of them are known to have come from that nursery, it is a reasonable conclusion that to W. B. West helongs the credit, though prohahly unknown to him, of having first introduced the Blastophaga into America. That caprifigs on trees or cuttings could retain their vitality long enough to make this possible has been proven hy one of the writers who took cuttings with mamme caprifigs attached, from trees in the Maslin orchard last Decemher and planted them in his yard in San Francisco. In May following the wasps were alive and about ready to issue, but a spell of warm weather in June dried up the figs and killed the insects. This shows that even on unrooted cuttings it is possible to keep the insect alive for six months. This introduction hy Mr. West was undoubtedly accidental. The late Mr. Fred West, cashier of the Stockton Savings Bank, was at the time of this importation a partner of his brother in the nursery business. He said to one of the writers, just before his death, less than three months ago: "If we imported the capri tree ano the Blastophaga, it was purely accidental, as we knew nothing about either the capri tree or the insect, hut thought we were sending out a choice variety of the Smyrna fig."

(Concluded next Week.)

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It has been found that Rex Lime & Sulphur Solution used in the early part of the season is as effective for Blight as the Bordeaux Mixture, and it does not have the injurious effect upon the tree as Blue-Stone. In Oregon and Washington the use of Bordeaux is being entirely eliminated and lime and sulphur solution used for all purposes. The leaves are falling from the trees, and especially the Peach, Almond and Apricot should be immediately sprayed for the first spraying. The second spraying should be done on all trees just before the buds open in the Spring.

Rex Lime & Sulphur Solution is a guaranteed article; properly prepared; free from sediment, and as cheap, if not cheaper, than the farmer can make a mixture himself.

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Mixed orchid flowering. Pkg. 5c, 10c an oz., lb. 60c., post paid.

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**Liquid Sprayer**

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We have 200,000 trees of various varieties just the proper size for fall planting. We would advise that you place your order early, as there are very few trees to be had at this time of the year.

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Just received new importation **Holland Bulbs**
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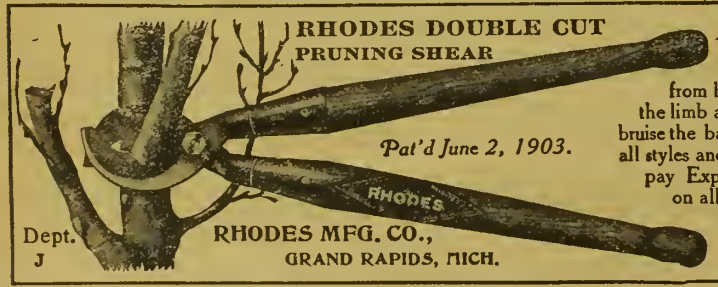


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**EUCALYPTUS TREES**

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**Strawberry Plants**

My plants are all grown in Tropico and on land never before used for Strawberry Culture. Plants are selected by myself for breeding and the blossoms always picked, therefore the strength grows into new plants. This is why my stock will produce by far the greatest amount of berries. If you are going to set out 100 or 500,000 be sure and write to

**E. H. LEARNED** **R. F. D. No. 5, Los Angeles**
Grower of Strawberry Plants only, and only the best.

**H. L. BAUER & SONS** 737 So. Spring St., Los Angeles, Cal.
We grow large palms, street and ornamental trees, flowering shrubs and roses Write for prices.

# Small Fruits and Vegetables

## THE BERRY INDUSTRY.

**Before the State Fruit Growers Convention by W. T. Newcomb, Sebastopol.**

IN TAKING up the question of the berry industry this paper will be confined to Lawton blackberries, Antwerp and Cuthbert raspberries, Loganberries and Mammoth Blackberries with incidental mention of a few other varieties that are grown in the foothill region of Western Sonoma adjacent to Sebastopol and locally known as the Gold Ridge country.

While the growing of strawberries is carried on to some extent one of your large "patches" in the Pajaro Valley contains more than our entire acreage. We leave this variety to the Watsonville district whose reputation for growing this berry is world wide.

Berries have been grown in the Sebastopol district since 1872. At that time the late W. J. Hunt planted the first blackberries. It was soon proven that the sandy loam soil, together with the moist cool summers, tempered by the coast breeze, and an abundance of winter rains, made it a favorable place for berry raising.

The first planting was of the Lawton black variety, and its adaptability has been proven by the test of time, for today it leads in production by double all other varieties combined.

The planting of Lawtons was soon followed by the Antwerp raspberry, which was usually called the Cuthbert, but differs considerably, both in fruit and growth; not being so rank a grower and fruiting in a shorter period; making it better suited for canning purposes into which the berry business developed, as San Francisco was the only fresh market available, and the profits from planting these two varieties stimulated planting to such an extent that in a few years there was such an overproduction, that if the canneries had not taken hold of them the berries would not have been worth raising.

During these years of development berries showed the same fault that all other California fruits have shown; viz: production taking place faster than consumption. The finding of new markets for this class of fruit at a distance was considered impracticable on account of its perishable nature. The first attempt, when the production became too large for the San Francisco market, was in evaporation. Good success resulted from this effort and a good trade was built up. Then the cannery came into the field and the tide ran the other way. No berries were dried, consequently that trade was lost.

The cannery requirements for berries were easily met. Fruit too ripe for shipment was in just the condition for them. This led to loose methds of picking and handling and quantity only was considered, until the grower was handling his berries about the same as he would a hay crop, and was only sorry he could not use a derrick fork.

All this led to one result; the canneries saying they had more berries than they could handle at the price; consequently a gradual lowering of prices until during the past two years the returns, based on the valuation of the land and labor, would not pay the cost of production.

This may look like a dark situation for the berry growers but fortunately our eggs are not all in one basket.

**Cultivation.**

Cultivation of our berries consists of thorough plowing, hoeing and cultivating; no irrigating being done. Different habits and growth of the varieties however require different training. The Lawtons are upright growers and are usually planted eight feet apart each way. The plants are obtained by digging the shoots that are thrown out late in the season near the "hill." The second season of growth the vines are staked with two redwood stakes, 2x2 and six feet in length. They are driven one on each side of the vine close in but spreading at the top to allow for lateral growth and ease in picking.

The raspberries are grown without stakes and are planted more closely. A good way to plant is; 3x8 and allow to make a solid row one way.

The Antwerp raspberry is a heavier bearer than the Cuthbert and slightly more acid. The light, dryer and more sweet Cuthbert has better carrying qualities for shipping fresh, but has not proven entirely successful in our locality, from bearing too much second crop in the fall, especially when we have early rains. Evidently the season is too long. At Puyallup Washington, 750 tons of this variety are raised annually, but their spring is a month later than here in California and the fall a month earlier and they are not troubled in this way.

The Lawton blackberry and the raspberry were the only bush berries grown until the advent of the loganberry; originated in your neighboring Santa Cruz. This berry met with favor from many, its term of fruiting filling in a gap before the later Lawtons. Its adaptability to a great variety of soils and climate has given it a wide planting and its vigorous growth and prolific bearing have made it a favorite garden berry.

The success met in crossing the California dewberry with the red raspberry which gave the logan, led to experimenting, resulting in the past few years in several new varities. The value of some of these remains to be seen. Probably the next best of these crosses is the Mammoth blackberry, a cross between the native or wild blackberry and Crandalls. That berry is in full fruiting at the time the Logans are on the wane and the Lawtons are beginning to ripen. Thus in our section we have succession of Logan, Mammoth and Late Black as we are beginning to call the Lawton since the Mammoth has come into the market.

Another new variety is the Himalaya a strong grower and good fruit, and may prove a good berry in some less favored climate and soil, but so far does not seem to supplant any of the older varieties. I suspect that one reason for this is the quite thorny nature of the vine, but it certainly is a hardy grower and will eventually find its place.

The Logan, Mammoth and Himalaya are running vines and have to be trellised. This is done in the winter; two wires being used one above the other at two and three feet from the ground. The plants from these varieties are got from "tippings"; which

(Continued on Page 631.)

# Eucalyptus

We have the following varieties in stock at this date.

**Eucalyptus** amygdalina (Peppermint Gum);
500 Cornuta (Yate Tree);
Crebra (Narrow-Leaf Ironbark);
168,000 Globulus (Blue Gum);
Goniocalyx (New South Wales Blue Gum);
1000 Leucoxylon (Victorian Ironbark);
3000 Polyanthema (Red Box);
1000 Resinifera (Red Mahogany);
700 Robusta (Swamp Mahogany);
32,000 Rostrata (Red Gum);
13,100 Rudis;
53,300 Tereticornis (Forest Red Gum);
28,000 Viminalis (Manna Gum);

Address

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Petaluma, Cal.

The confidence felt by farmers and gardeners in Ferry's Seeds to-day would have been impossible to feel in any seeds two score of years ago. We have made a science of seed growing.

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**More Fruit**
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securing more money from your orchard, with but trifling exertion and small expense. The secret is simply learning to use the right kind of

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**CRIMSON WINTER RHUBARB**

$1.50 per Dozen
$6.00 per 100
$40.00 per 1000

Now is best time to plant Rhubarb.

Berry Plants of All Kinds.

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Rhubarb and berry specialist

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For fall and early spring planting. Our interior valley climatic conditions make hardy plants. Best to ship. Best to plant. Our trees grow. Prices right.

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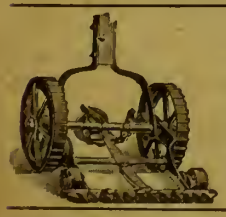

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Will cut tall grass and weeds and do all the trimming along the walks and drives. Your dealer should have them—if he has not drop us a line and we will send circulars and prices.
**Clipper Lawn Mower**
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**Rhubarb Plants for Sale**

We have a few thousand extra choice one year old CRIMSON WINTER RHUBARB plants which we will sell for $25.00 per thousand. NOW IS THE TIME TO SET THEM in order to raise a splendid crop next season.

**Phalanx Co.** 513 Chamber of Commerce Bldg., Los Angeles

writing advertisers, mention Cultivator.


# The Ornamental Garden

## THE ARRANGEMENT OF CUT-FLOWERS.

THE art of arranging cut-flowers, whether it be on the dining table, in bouquets or vases is not a very good subject to write about. It is like music or painting, you can never learn how to do either by reading or hearing someone tell how it should be done, yet there are a number of points that can be reduced to writing which may be serviceable to anyone interested in the subject.

A visit to the work room of an up-to-date florist's establishment will reveal the fact that practice is essential, if nothing else, in arranging flowers.

I think all who love flowers have the ability to arrange them, although it may be undeveloped. The question, what is good taste? is rather a hard one to decide. There are many creations turned out of reputable florists' shops, that pass as the proper thing, just because the work bears the name of an artist in the trade. The rules that govern the artistic are so subtle and undefined that few have the courage to criticise if the work bears the name of a prominent florist or is considered to be the correct thing.

If you will make a round of the different florists' stores during the Easter season, you will very likely see palms and other plants decorated with colored paper or ribbon. The incongruity is apparent when you stop to consider how impossible it is to decorate the most beautiful objects in nature. You can decorate with flowers and plants, but you cannot decorate flowers and plants with artificial material, and not infringe upon the laws of good taste. This is to a certain extent the key to the whole subject. Flowers being the most beautiful things on earth, the correct arrangement consists in showing them off to the best advantage. To do this you must study the flowers themselves.

We cannot but admire some of the wonderful creations of the florists' art, but after all they show little more than just what can be done with flowers and ribbon, and what ever the combination, and however skillfully put together, they are not more beautiful or more artistic than the individual flowers themselves.

It is very doubtful if there has ever been a floral piece put together that is equal in refinement of beauty to a dozen good American Beauties with their own handsome foliage or a few choice orchids loosely arranged with farleyense fern.

A bouquet made of one kind of flowers may be considered the simplest kind, and it might be added, the best, if there was a supreme court to decide such matters in place of that tyrant lady, Fashion.

In arranging a bunch or vase of flowers of one kind, there is a very good rule to observe, and that is let the shape of the bunch in outline be the same as the flowers used, for instance if the flowers in question be tea roses, the outline should be somewhat conical; if broad like the carnation, the flat topped bunch will be the best. The very choicest buds should have the most prominent positions, while the more expanded blooms should form the base. The same might be said of color—the heaviest should not be above the light ones.

In arranging colors it is well to remember that nature lays her colors on solid, and as a rule when two contrasting colors are produced in close proximity, one is merged into the other by gradual shading; of course there are many exceptions to this rule, such as may be seen in the ringed markings of the Gaillardia, or in the annual Chrysanthemums, but when it does occur it looks artificial and unnatural. It is impossible, however, to give rules how to arrange flowers, the most that can be done is to point out the laws which should govern good taste.

For green to mix with flowers there is none equal to their own, but with such flowers as carnations, it is almost impossible to obtain sufficient for this purpose, and in such cases the best substitutes have to be used.

All made up floral work is distinctly professional, and it is interesting to note the evolution from the bouquet of a few years back, with its paper frill and its short stemmed flowers all gummed and wired up, to the loosely arranged flowers on long stems that are in vogue at the present time.

In arranging cut flowers in a basket, vase, or bunch, artificial arrangement should be avoided as much as possible, and every flower made to show itself individually. A few blended shades of color as a good contrast, are all right, and always safer than too many mixed colors.

The principal exception to this rule are the different colors of one kind of flowers, such as Sweet Peas, Chrysanthemums, Dahlias, Asters and such like, if they do not always blend well they seldom shriek at each other and the effect is pleasing.

A person that really loves flowers can hardly fail to arrange them effectively in the home. Given Pansies, a shallow dish would be procured instinctively, so as to show their faces off to the best advantage, Poppies would be placed in a tall, slender-necked vase, so they would stand up and look as if the wind was blowing through them. Paeonies need a wide vase to themselves; they are too massive to mix with other flowers and so on all through the list of different kinds.

Cut-flowers are so perishable that intelligent handling and care are almost as important as tasteful arrangement. In the winter, when nothing but the greenhouse product is obtainable, there is not much to it, all that needs be done is to see that the water is kept fresh, and keep them in as cool a temperature as possible.

In the summer, however, it is different when it is possible to go and cut flowers from the garden; at this time the heat is the greatest trouble there is to contend with. Flowers are always better cut in the morning, before the sun has too much power. In any case it always pays to place them in water in a cool dark cellar for an hour or so to cool them off, before bringing in.—E. Hemming.


# Eucalyptus

We have a very fine lot of these trees in variety, ready for immediate shipment.

**Orange and Lemon Trees**

Our Citrus Trees are of the very best one and two year buds. We claim to have the finest trees on the market for the next season's planting, in any quantity. We are also large growers of

**Palms, Roses, Fruit Trees**

and other stock. Call and see our stock or write for our prices.

**Armstrong's Covina Nurseries**
222 E. College St., Covina, Cal.

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In large or small quantities. 33 kinds to select from. Write for free pamphlet "Eucalyptus Culture." It gives full directions for sowing the seed, raising the plants and planting out into the field, together with descriptions of all the leading species, giving their uses and the localities to which they are adapted. Sample packets 15c each, 2 for 25c, 4 for 50c, 9 for $1.00. Choice Flower, Garden, Tree and Palm Seeds, Roses, Flowering Plants etc. Catalogue mailed free upon application.

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# Eucalyptus

We have ready for immediate shipment
**100,000 BLUE GUMS**
fine, healthy stock.
Write for our Eucalyptus circular.

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# 350,000 Asparagus Plants

Strong healthy roots ready for immediate planting in permanent beds. I have plants of the four leading commercial varieties—Barr's Mammoth, Conover's Colossal, Columbian Mammoth White and Palmetto—all grown from specially selected seed. Price $1 per 100, $5 per 1000, cash, express prepaid. Write for prices on large quantities.

**200,000 Mammoth Blackberry and Red Loganberry**

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**Otto F. Schuchard** 362 E. Lake Ave. Watsonville, Cal.

# 20,000 Superlative Raspberry Plants

The Largest Raspberry in Cultivation. Sure Cropper.

# 600 Grafted Franquette Walnut Trees

From selected trees of the Vrooman Strain on black native root.

**Wm. RICHARD,** 438 River Street, Santa Cruz, Cal.

# Eucalyptus Trees

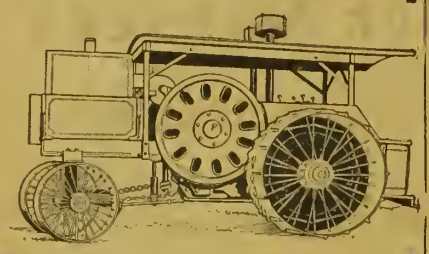
**Red and Blue Gum**

Specially prepared for cheap transportation and safe transplanting. Write for particulars to

**HENRY SHAW, Santa Cruz, Cal.**


A water suit has been begun in Riverside by residents of the Valle Vista section to secure additional waters from the Hemet dam.

**Distillate Traction Engine**



**Double Cylinder 50 H.P.**

*For Plowing or Hauling will do the work of Twenty-Five Horses*

*For Pumping or Other Power 50 H. P. Available from Pulley on Engine*

*Two Speeds Forward, One Back, all on Direct Drive*

*Easy as an Automobile to Handle. Only Two Levers, One to Drive, One to Control Power Steering Gear.*

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**212-214 So. Los Angeles St. Los Angeles, Cal.**

**Oregon Grown Peach Trees**

**Non-Irrigated** **Non-Irrigated**

**No. 1 Grade—4 to 6 Feet**

**Muirs**
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**Tuscans**

If you'll plant Oregon grown peach trees just once, you'll never want to plant any other kind.

**One-Year Tops BUDDED on Three-Year-Old Roots**

"That Tells the Tale."

Try them. They're no more expensive than poorer trees.

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For 24 years we have supplied our customers in all States with Trees and Seeds that GROW. We carry a most c mplete line of **Fruit and Ornamental Trees, Berry Bushes, Roses, Perennials, Bulbs, etc.** Low prices. Best quality stock only. Pacific States varieties of Apples, best one year trees at $6.00 per 100. Peaches $5.00 per 100. We pay freight on $10.00 orders.

Also, very large and complete stock of **Farm, Vegetable and Flower Seeds** to select from. Write for big 112 page catalogue and Garden Book. Mailed FREE to anyone interested; also, free sample packet of "New Coreless" Tomato, the best of all tomatoes.

**GERMAN NURSERIES AND SEED HOUSE.**

**Box 54, Beatrice, Neb.**

**EUCALYPTUS TREES AND SEED**

**Sunset Nurseries, Tropico, Cal.**

## STATE FRUIT GROWERS CONVENTION.

(Continued from Page 603.)

The standardizing of all deciduous fruit packs prepared for inter-state shipments was emphatically endorsed and urged and that every section of the state unite and make this standard uniform. Also that the standardization should be applied to dimensions of boxes. To secure the standardization and better over-sight of packing, also to secure if possible more just freight tariff, a resolution was passed calling for a committee of ten, appointed as follows: "Five from the California Fruit Distributors, two from the California Fruit Exchange, and three from the Independent Fruit Shippers."

A resolution which caused some little discussion was the one suggesting the cessation of planting of grapes, peaches and some other fruits which are now apparently being produced in too large quantities and the planting of more almonds, figs, pears and such other fruits as are now being imported and are not being produced in this country sufficient to meet the demand. R. D. Stephens and some other delegates felt that the convention should not take the dangerous ground of suggesting any particular fruits to be grown or restricted, that it was a matter for the individual planter to take the chances as to what the future should develop as to any particular phase of the industry. However, it was generally deemed that this amount of advice could be given to newcomers of the state and others who should ask it.

The pre-cooling of fruits and greater care in picking and packing were emphatically endorsed.

More rigorous enforcement of the horticultural law, especially that portion of it touching upon obnoxious weeds and pests, was recommended.

In view of the fact that the reputation of the state as a fruit growing section is so greatly menaced by the condition of public highways which is such that the keeping quality of fruits which are hauled over them is menaced, the demand was made for the best roads possible in all horticultural districts. It may be noted, however, that no endorsement was made of the proposition to bond the state for $18,000,000 for good roads purposes. An address was made on that point by state engineer Ellery on which there was no favorable discussion and delegates in private were free to express themselves opposed to voting such a sum until its disposition could be safeguarded more than it is at this time.

Dishonest promotion schemes were unqualifiedly condemned and the request made that "The Legislature be asked to pass such acts as will protect the buyer by compelling the seller to publish the soil analysis and character of land offered for sale in accordance with government survey."

WHERE PART OF WATSONVILLE'S 3500 CARLOADS OF APPLES ARE PRODUCED.

The report of the committee on freight rates consisting of R. D. Stephens, M. E. Angier, and C. M. Hartley, which was presented in a booklet of 28 pages was endorsed after a presentation by Chairman Stephens. This is the first time that Mr. Stephens' report has ever gone through the convention without strenuous objections. The posltion taken by Mr. Stephens was endorsed by practically every delegate. The report called attention to the fact that deciduous fruits now pay from $1.15 to $1.45 per hundred pounds as against $1.00 for lemons and $1.15 for oranges, also $1.00 on apples. The effort on the part of the committee is to secure a dollar rate on all deciduous fruits.

Purity of chemicals used in spraying, fumigating, and other horticultural work called for a resolution demanding supervision over these chemicals. Some chemicals like cyanide of potassium are produced of such quality and at a price so controlled by the trust that it is possible that state supervision will not have much effect upon them, but other chemicals produced of uncertain quality, like certain packs of our fruit, need "standardizing."

It was urged that a chair of farm economics be established at the agricultural college. Californians have been educated to produce a good quality of fruit but they have not yet been educated to stand together and use good business judgment in the disposition of their fruit.

The resolution endorsing a government line of steamers from coast points to Panama went through like a whirlwind without a dissenting vote.

* * *

**Notes.**

The first day of the convention was honored by the presence of the Governor and Lieutenant Governor of California.

This year's program was honored with the presence of one woman, Mrs. C. H. Rodgers making an address on the topic "Apples on our Menu."

Plant more almonds. Plant more figs. Plant more pears. On all these fruits we are short of the demand. Almonds especially need more extensive planting where one has the right conditions. Above all see that these conditions are right before making any extensive plantings.

Like a famous pickle advertiser, Watsonville has "57 varieties" or at least along the railway track within her limits are 57 separate packing houses. These range in size from one that packs and sends out 300 car loads annually down to the smaller houses with only a few cars.

Pajaro Valley has already shipped more than 3,000 cars of apples and every delegate to the convention knows they are fine.

Like the big meat packers, Pajaro Valley apple packers are saving the waste. The fine fruits are shipped, the lower grade are evaporated, the cores and peelings from these evaporated fruits are made into vinegar, the better grade of culls are made into cider, and the greatest waste of all and one that looked almost sinful was to see the great wagon loads of pomace hauled off to the river and dumped into the current. Why this pomace is not used to add humus to Watsonville soil is a query. The only answer given to us is that their soil is so rich it does not need it.

YOUNG APPLE ORCHARD WITH INTERCULTURE OF SMALL FRUITS.

Col. John P. Irish was the picturesque figure in the convention. His address was equally as picturesque and he drove home the fact that after all the skill we may wish to put into the production of high grade fruit is exercised, we still must use highest intelligence in marketing or our efforts will be in vain. In fact he would establish as a slogan, "first catch your market then plant trees." He said "the time when stuffed roast pigs were running around begging people to eat them has passed."

We wish we could give every p delivered at the convention in one issue. They are worth it, will inspire producers to grow best fruits in their power, but i readers will be patient they wil

pear one by one until they have all been given. The one by Prof. Hermes of the State University which touched upon advantages and disadvantages of certain insect pests which relate to rural hygiene will cause us to keep cleaner premises and prevent the pest of flies and mosquitoes by proper cleanliness about the premises.

Santa Rosa and Lodi both made an appeal for the next convention. Final decision was not made on the question and the matter is now in the hands of State Commissioner Jefrey for final decision.

Prof. A. V. Stubenrauch thinks that the table grape season may be practically doubled by the investigation in cold storage and greater care in picking and packing.

"Whatsonville is all right" was the general verdict of every delegate as he packed his grips to leave.

Parcels post will not down and the stage of "resoluting" is passing and those who are pushing it will want to know the reason why and as to who is responsible for its failure, if it does fail, in the future.

The pronunciation of "Pajaro" was a stunner to some of the newer comers to the state. We heard a delegate asking one of the reception committee whether the name of that valley was pronounced Paj-a-ro or Pa-ja-ro. The natives are very sensitive on that pronounciation. It should be Pa-ha-ro with first syllable accented, the a being sounded as in father.

Commissioner Jeffrey stated as an axiom; "He who teaches production without teaching marketing, is an enemy of the state."

Dr. Snow in his address stated that if California could stop the untimely deaths of those who are yet of a productive age, the population of the state would be increased by 100,000 in twenty years.

There were more of the oldtime attendants at the convention than for several years, and with it all many new faces.

Col. Irish suggested that if fruit were beginning to prove unprofitable it was time for us to turn to hogs. We are annually importing millions of dollars worth of pork.

Pajaro Valley's productive area is about 100,000 square miles sending out annually three million dollars worth of apples.

APPLE PICKING SCENE IN WATSONVILLE.
Courtesy Chamber of Commerce of Watsonville.

### PEACH BLIGHT.

Growers whose orchards are affected with peach blight should proceed at once to spray with Bordeaux mixture. In fact, it is getting rather late to combat this perplexing disease, but as a rule growers prefer to wait till the last moment so as to prune the tree first and so reduce spraying area as much as possible. The best results are secured by spraying from the last of October to the last of December. After the first of January results are much less satisfactory. Spraying at this time has little effect on peach leaf curl. It should be done later in the season to be satisfactory. When orchards are affected with peach worm two sprayings will give immunity from these three troubles, that is the early spraying for blight and late spraying with sulphur, lime and salt wash for the worm and curl leaf. The sulphur-lime wash has been found fully as effective with the curl leaf as the Bordeaux mixture and of course destroys the worm.

Bordeaux mixture for the blight may be prepared as follows: Twenty pounds of lime should first be perfectly slacked in a considerable amount of water, stirred and strained to make a perfectly smooth whitewash. Then dissolve twenty pounds of bluestone in water—a solution of any known strength which can be used as a stock, may be made. In mixing these two stock solutions, the lime and bluestone, plenty of water should be used to keep them well dissolved. Pour together in a vessel and thoroughly churn to mix. It may then be strained and diluted with the remainder of the water. This forty pounds of lime and bluestone is sufficient for 200 gallons.

If the pruning cannot be done before the spraying be sure that a thorough job is done, and then the pruning may be done at any time after the spraying. Some growers prefer to go over the sprayed trees a second time, making sure to cover all limbs where the wash did not take effect the first time. Every twig must be covered with the spray. Many growers soak the trunks and limbs, leaving the twigs untouched though they are the part most affected by the blight. The least portion of the twig left uncovered provides an entrance way for the blight.

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3. To compel laggards to grow more rapidly.
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6. To remove diseased, broken and undesirable limbs.—Pacific Homestead.


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# Irrigation and Forestry

## LUMBER CROP IMPORTANT PRODUCER OF FREIGHT.

LUMBER is one of the chief freight commodities produced by land. Its weight per acre surpasses corn, barley, oats, wheat and rye.

Few people are aware of the care used by railroads in keeping tab of the productiveness of land along their lines from the standpoint of the amount of freight produced by various crops. Heavier the crops per acre, the more business for the railroads. Nor are there many people who think of lumber as a crop, and one of the most important crops at that, which contributes a large share of the freight business of railroads.

The quantity of freight produced by a crop depends upon soil, region, and kind of crop. Railroads figure it from that point of view. Their profit depends upon tonnage and class, and they want to know what crop pays the carrier best.

Many averages in many localities are necessary to reach reliable results. Care is necessary, too, in applying to one region the figures obtained in another. Indiana, Illinois, and Kentucky are the center of a vast productive region, and averages there possess as much value as those of any part of the country, but, of course, they cannot be applied everywhere. An acre is credited with yield as follows:

| | Pounds Per Acre |
|---|---|
| Cabbage | 21,000 |
| Onions | 19,95 |
| Potatoes | 4,680 |
| Lumber | 3,0 |
| Hay | 2,710 |
| Corn | 1,728 |
| Barley | 1,2 |
| Oats | 886 |
| Tobacco | 877 |
| Rye | 848 |
| Wheat | 792 |

As the list shows, the three heaviest freight producing crops are cabbage, onions, and potatoes. Lumber is fourth. Up to the present time timber has been cut almost exclusively from wild land, without much regard to the acres gone over. But the time is coming when the yield of wood per acre will be calculated as carefully as the yield of corn, and as much thought will be given to growing it, though not as much work. How much wood grows on an acre in a year?

Some of the abused, burnt, washed, and neglected lands are producing only little. It has been estimated that the typical hardwood regions of Tennessee, where fire is kept out, are growing about 3,000 pounds of wood yearly per acre. Good stands of young pines in other parts of the country are probably doing as well or better. But this is not the limit, for foresters say woodland can do much better under forestry methods. Good timber must be selected, the poor cut out, just as the farmer plants the best kinds of corn and rejects the poor. In Europe where they raise crops of trees, they get, under favorable conditions, an annual growth of 4,500 pounds to 6,500 pounds of wood per acre. This country can do at least as well.

The freight carriers, however, seldom transport the whole wood growth. The waste is left in the woods or at the mill. This is much or little, depending upon what is made of the wood before the transportation company gets it. It is apparent, however, that after deducting for waste, the growth of an acre of timber furnishes more freight than an acre of any one of the agricultural crops except cabbage, onions, and potatoes.

The quantity of any one of these three commodities that will go to the market is limited by demand, but the demand for lumber is not diminishing. All that the forests and planted lots can supply will go to the market.

Woodland, under care, yields yearly crops as regularly as wheat fields.

The marketable timber only is cut at regular intervals, and new growth is always coming on. As a freight producer, a timber tract may be depended upon as surely as a potato field. In fact, it is surer; for land in farm crops wears out unless constantly fertilized, but timberland fertilizes itself with its leaves, and becomes richer. It will yield undiminished crops forever.

Trees grow on rough land where agriculture cannot profitably be carried on, and the freight and other returns from such regions are largely clear gain since such land would otherwise be producing little or nothing.

## PLANTING OF EUCALYPTUS.

The wonderful growth made by the city's tract of eucalyptus trees at the city reservoir in the Lytle creek wash, is a living illustration of what eucalyptus can be made to do on the moist lands in this portion of the valley. The trees on the city's tract have been in the ground but seventeen months and were whips when set. Now they average fully 15 feet in height and many are 20 feet in height and several inches in diameter.

A year or two ago there was a great amount of discussion here as to the encalyptus industry, many talking of making plantings. Not a great number were set out. A few tracts were planted, the Riverside Water company experimenting to some extent on their lands in this vicinity.

There are many thousands of acres of lands within short distance of the city which are as well or better adapted to the growing of eucalyptus trees than is the land at the city reservoir and most of these lands are now bringing a small or indifferent return to their owners. Some of these lands are in fact considered to be practically worthless.

These lands could be planted with eucalyptus which needs irrigation but one or two years, and in a few years a great and very valuable industry could be built up about this city that would rival even the orange industry in the value of the products. The timber would bring large and remunerative profits to the owners of the lands at a minimum outlay.

And the growing of the eucalyptus timber here in quantities would provide the raw material for the establishment of large and valuable

(Continued on Page 631.)


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# Bees and Their Care

### TRANSFERRING BEES.

By Henry E. Horn, Riverside.

A LADY, Mrs. J. H. of Watsonville, wants to know "if now is a good time for transferring bees out of box into moveable frame hives." She says she can get bees in common boxes from a neighbor, at a low rate, and she is anxious to have a start with the honey makers. The lady referred to has been given a preliminary answer by mail, and promised full instruction through the Cultivator later on. But as there are many others who also expect to raise their own honey hereafter, and experience the recreative pleasure that work confers besides; and as, furthermore, a bit of advance planning is necessary, it is, perhaps, as well to give such advice as is at hand and seems fitting now, though the beginning of the season is three months ahead yet, and bee life just now at its lowest ebb.

It is a rule with all experienced beekeepers never, never to disturb their charges through the winter; and that for the good and sufficient reason that interference during the dormant or semi-dormant, period spells disaster now, and probably loss of the entire colony by the time the daisies open their star rayed eyes on the meadows. If bees must be transferred at all the best time is during fruit bloom, and before there is much new honey in the combs. The job is a disagreeable one, sticky and stingy in a high degree at best—this is the voice of actual experience—and after-results are scarcely ever satisfactory. But if one likes that sort of thing, or is obliged to do it, the following is the way to proceed.

Give your box hive bees a good smoking and jarring. After about five minutes pry loose bottom board, and the side running lengthwise with the combs. Smoke the bees out of the way. With a strong knife cut out the first comb you come to, brush off every last bee on it and put it in covered box. In like manner cut out all the rest. Leave the bees in their now empty box on their regular place. Take box containing combs into barn or kitchen. Take out one at a time and put on table, flat. Then take an empty frame out of the new hive (which should have been placed handy, all prepared before hand) and put over the comb in such a manner that it will take in the most and best of it, including all brood. With the knife cut around inside edge of the frame through the comb. Take trimmings out of the way; what remains will just fit the frame. A few strings around crosswise will keep it in place. Now place into new hive, brood in center. If possible empty frames should be filled with full sheets of foundation and placed just next to brood on either side. Then carry hive out and put on original stand of box hive. Dumping bees on top of frames and in front of entrance, fitting cover on snug, hive level and shipshape, completes the job, such as it is.

For the hive the standard Langoth size should have been selected. ere are three sizes of the latter, e 8, 10 and 12 frame capacity. any good beekeepers, particularly those working for comb honey, use the eight frame hive. But because of its small size it needs watching for stores in winter, and for much swarming in summer. Hence, for amateurs, and such as cannot give much time to bees, the ten frame is much more satisfactory. And only standard, mill made goods should be used. For unless things fit just so there will be stings, and a hot time, and swearing bye and bye.

But there is a better way to do this thing. By daily, or rather nightly, feeding of an ounce or two of diluted warmed honey, beginning about February 15th, and keeping the bees warm and sheltered, the hive may be so crowded with brood and young bees that a big swarm will be forced out as soon as fruit bloom is on, and new honey comes in regularly. That swarm, of course, goes into the new hive. It is best not to use too much foundation in the frames; strips two or three inches wide and as long as the frame, securely fastened along the under side of the top bar, one strip to each frame, is about as good as one can do. If, now, the new hive containing the swarm is put on the stand of the box hive, and the latter alongside of the former, one may by shaking about once a week the lately hatched bees of the box hive in front of the new depopulate the old in three weeks completely. It is to be noted that after each shaking the position of the box hive should be reversed, relative to the new, that is to say, if the former stood north of the latter before shaking, it should be put south after. For shaking, the bottom board must be off, of course.

If the weather is warm, and honey comes in freely the new hive should be filled out in ten days, for our honey bee is not only a master builder, but a miracle worker as well.

If the workers don't show three yellow stripes across the telescopic segments of their bodies, your colony is of the impure, hybrid variety, and a pure Italian queen should be given them—but that is another chapter.

But the concluding advice of an old hand at the business is, don't meddle with box hives alt all. Buy as many colonies as you want, of the standard size and pattern of hive with clean bill of health from some experienced and reliable beekeeper of your neighborhood. It may cost a little more, but the money would be well invested, comparatively.

The Department of Agriculture offers among its "Farmers Bulletins" one on "Bee Keeping" No. 59, of 48 pages. Any one may have that for the asking.

---

Do not touch a colony of bees at any time unless it is necessary and never when it is too cold for them to fly. Many people think it is a good time to move bees from one locality to another when it is cold. Excitement causes them to fill with honey. After they fill with honey it is very natural for them to fly. When moved or otherwise excited if the weather remains cold for several days it impairs the colony.

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A campaign for good roads has been started in Placer county.


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**Cultivator Publishing Co.,**
**115 North Broadway,**
**Los Angeles, Cal.**

# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, December 16, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

Frank H. Thomas, Adv. Mgr., 115 No. Broadway, Los Angeles
M. C. Holman, San Francisco Office, 733 Merchants Ex. Bldg.
Fisher Special Agency, Eastern Office 150 Nassau St., New York
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## Good Roads.

THERE is one feature necessary to the shipping of better keeping fruit from California, and that is that growers unite in demanding better roads over which to haul products to points of shipment. A resolution was adopted at the state fruit growers' convention fully endorsing the good roads movement. Nevertheless we do not believe the convention was in favor of the eighteen million dollar bond proposition advanced by the present administration. The address by State Engineer Ellery brought out some discussion in opposition to the movement on the ground that the expenditure of such vast sums should be better safeguarded than is possible now. Taxpayers of the state realize that the investment of eighteen millions in good roads would make returns in proportion were it not for the proneness of political organizations to use such funds for strengthening their machinery by placing unworthy or incompetent people in charge. Granting that the present administration would handle the funds judiciously and with justice to all sections, we have no assurance whatever that it will remain in power. Mr. Ellery contended that the expenditure should be in the hands of competent engineers instead of men whose party affiliations or neighborhood friendships brought them appointment. This also may be granted, but will the state administration secure these capable and unprejudiced people more surely than will the county? The feeling privately expressed by many delegates was that the "organized interests" were at present in power as has been shown by the attitude of the state board of equalization in raising assessments on agricultural counties to the end that the assessment of railroads has been decreased thousands of dollars.

When the time comes that the people have some control over these matters through the recall or other methods, we believe such a proposition will be passed overwhelmingly, but if we can read the handwriting on the wall at this time, the bonding scheme will be defeated.

## Be Square.

ONE OF THE STRONGEST POINTS made in the address of John P. Irish before the state fruit growers' convention was the necessity for an honest pack. Disaster was visited upon several deciduous fruit sections this season from the shipping of unripe, wormy or undersized fruit. Thousands of dollars were lost in coin, and more in damaged reputation of California fruit. This loss was laid at the door of the producer by the shipper, at the door of the shipper by the producer, and both combined in laying it at the door of the Jap producer and shipper—all of which does no good. The only correction is "to correct" the evil, or to use Mr. Irish' words, "Be square and demand of every one with whom you deal the same honesty and square dealing." California's reputation for an honest pack has not been, perhaps, of the best, though not bad by any means, but a few seasons of shipments similar to the last would bring about that unhappy result. The movement started in Placer county and now spread over many sections of the San Joaquin Valley, is in the right direction. The orange growers have thoroughly learned this lesson and we believe this is the reason theirs is the most prosperous fruit industry in the state. Every shipper, whether he be Jap or white man, who does not send out a pack honest from top to bottom, is, and should be considered, the enemy of the state.

## Overproduction.

FOR THE FIRST TIME the state fruit grower's convention took the ground of discouraging further planting of some fruits in this state. This action has been threatened before by members of the convention, but never carried out. The returns for grapes this year and the fact that one small section of the San Joaquin Valley will soon be producing 10,000 carloads of table grapes, calls the attention of thinking men forcibly to the tendency of Californians to all flock in one direction. Table grape growing proved extremely profitable and the owners of thousands of acres rushed headlong into the planting of vineyards until now there are more table grapes produced than it appears the market can absorb profitably.

Embodied in the same resolution was a suggestion for planting more pears, almonds, figs and lemons, as these fruits were not over supplied and should bring to this state the millions of dollars now sent to foreign countries. This last feature called forth some opposition because of fear that some would plant these trees without using judgment as to whether their location were favorable or not. That, of course, is a matter which every land owner must decide for himself. That there is need of more diversified planting goes without saying.

## Bee Keepers' Institute.

J. B. NEFF, conductor of farmers' institutes for Southern California, informs us that the date given in last week's paper for the bee keeper's institute at Colton should have been Tuesday and Wednesday, December 28 and 29. These institutes which will be held in various parts of the state should be of great value to apiarists.

## A Marvelous Story.

WE HAVE BEEN HANDED A copy of the Buffalo Courier of Oct. 31 in which appears a two page advertisement, the entire space being a little less than a yard wide. This is one of the best examples of hot air advertising we have ever seen. The big wood type lines across the top of the page announce; "Luther Burbank's marvelous farm products will make your fortune." The advertisement is fathered by a company with a high-sounding name and liberal claims as to its own importance and to the worth of its guarantee. It has secured a body of land in Florida which it is willing to offer to the people for a consideration. "Never have you had such a wonderful offer made to you as we are making. Think of it, a ten, twenty or thirty acre farm in Florida that will yield from five to twenty thousand dollars, and is backed by an organization representing two millions capital. Not only will the land make you independent for life, but the work of this company, pledged to propagate, distribute and market Luther Burbank's wonderful products, will place you in a position to receive immense profits." "If you fail to take advantage of our offer, you are going to regret it to the end of your days," etc. ad infinitum. Occupying a prominent place is a personal communication from Luther Burbank in which he certifies that he has granted to this company the "control of the world for some of my latest and best creations" including "my very latest creation, the thornless cactus, superior to anything heretofore produced." Burbank's "marvelous creations," together with his picture and his picture again in his thornless cactus patch, are prominent features.

That this will catch thousand of eastern suckers goes without saying, and the pity of it is that they will be largely the people who can ill afford to lose their money.

## Health of Farmers.

ONE OF THE MOST UNIQUE addresses made at the fruit growers' convention was that of Dr. W. T. Snow. After Dr. Snow had stated that there were 10,000 lives sacrified needlessly in this state every year through lack of care in our surroundings and observance of rules of health, he asserted that each of these lives was worth to the commonwealth at least $1500. Therefore these deaths entailed an annual loss of $15,000,000. As to the individual Dr. Snow asserted that he really could not afford to die early. This, he said, might sound somewhat strange but is purely a business proposition. For the sake of his family and the commonwealth he should take care to assure himself a long life.

The rules which he gave for prolonging life prescribed plenty of sunshine, fresh air, proper food, sleep and a proper amount of play. Every citizen owes it to the state as well as to himself to keep himself in form for the best production.

## Jewish Agriculture.

IT HAS OFTEN BEEN REMARKED that a Hebrew farmer is unknown. Banking or merchandising have been the strongholds of the Hebrew race for centuries, but we note that one of the recent events in New York City was the holding of a Jewish Agricultural Fair. There has been an organized effort in New York to induce Jewish immigrants to take up the study of agriculture. This movement has succeeded to the extent that at this fair, participated in by Jews only, a most creditable exhibit was made. Beef animals were the only line of agricultural industry not represented. Dairy products and prize vegetables were prominent. There is now at Woodbine, New Jersey, a Jewish Agricultural school, also one at Doylestown, Pennsylvania.

WE HAVE received a number of inquiries in regard to the California Mutual Live Stock Insurance Association which has been under examination by the insurance department of the state since last October. A report recently filed characterizes the Association as "A private speculation in the guise of a mutual association.", The Association has not been "tied up" as yet so to prevent or interfere with its paying losses, but it was refused permission to continue soliciting new business.

# Agricultural News Notes of the Pacific Coast

## Northern California

Sonoma county hop growers are still receiving 24 cents for their crop.

Olive growers of San Joaquin county expect to handle a heavy crop this winter.

The Alameda Sugar Co. has started a campaign to increase sugar beet acreage in Yolo county for next season's run.

Oroville oranges are being rushed forward for the Christmas market. Prices reported for orchard run about $2.00 f.o.b.

The fruit packing houses of Red Bluff, Tehama county, have just closed down after a steady and successful run.

Gang plows are busy in Tehama county turning the sod for winter sowing of grain.

Fruit growers of Contra Costa county held a meeting at Concord recently and organized a co-operative marketing organization.

As result of examination for horticultural commissioner of Butte county recently held at Oroville, the successful applicant was Mr. Earl Mills.

The supervisors of Contra Costa county have appointed three road commissioners and details of a large undertaking for good roads have been planned out.

Pear growers in Contra Costa county have determined to wipe out the pear thrips or at least so control the pest as to make pear production more profitable.

The second demonstration train trip starts this week from Sacramento, going first to Auburn and other nearby points, later swinging around into the San Joaquin Valley going south as far as Tracy and Brentwood in Contra Costa county.

County Hotricultural Commissioners Newcombe and Galloway of Sonoma county, are holding meetings with the fruit growers and suggesting the formation of associations which will advance the merits of systemmatic spraying and caring for fruit.

Peach trees shipped into Potter Valley near Ukiah, Mendocino county, found to be affected with peach yellows, peach rosette and two forms of blight, were burned as soon as they arrived and proper inspection could be made. They were shipped in by an Ohio nursery.

At the annual meeting of the Woodland Creamery Association it was shown that the receipts for products sold the past season aggregated $157,287.32. There are 252 patrons of the creamery to whom has been paid during the year $149,345.99. The average price paid for butterfat during the year has been 33 1-3 cents. It is a co-operative organization.

The supervisors of Yuba county have enacted an ordinance which limits the load for teams from Dec. 1 to April 1 at 5000 pounds including wagon, instead of 3500 ds as was formerly the case. ase of heavy articles of ma- ry which exceed 5000 pounds, rdinance permits the hauling ding the tires are over six inches s the face.

## Central California

Work has begun on the erection of the fourth creamery for Tulare.

Last year the three creameries of Tulare paid out over $700,000 for cream in that neighborhood.

Three local buyers of beans in the Turlock district have paid out over $30,000 cash to growers this season.

Ploughing for grain planting is in full blast all over Kern county, in the mountain valleys as well as on the plains.

Some fruit growers in Tulare are urging that the next citrus fair of that county be transferred to Los Angeles.

The first solid trainload of apples ever sent to a foreign market from the Pacific Coast went from Pajaro Valley last week.

A meeting of raisin growers recently held in Fresno has organized a pool for the disposal of raisins, 2500 tons having already been signed.

Kern county reports grass already high enough for sheep. The prospects are that the number of sheep in the county will be larger than last winter.

Some eucalyptus trees planted in the cooler sections of the San Joaquin Valley have been nipped by the frosts. Some younger ones may possibly be killed.

Property owners living within the boundaries of the proposed Westside Drainage district near Fresno, have defeated the drainage proposition by a vote of 51 to 44.

Fruit shippers over the northern end of the state all propose to stand together and secure a reduction on freight rates on deciduous fruits, if such a thing be possible.

Butchers of Fresno county report that they can afford to pay more per pound for grape fed porkers than for alfalfa or grain fed hogs, at the same time increasing their own profit.

The L. F. Giffen Co. of Fresno, the large raisin buyers, who have endeavored to break up the raisin trust so embarrassing to shippers, are doubling their plants at Fresno and Fowler.

The University of California held at Monterey this week a farmers institute given over especially to topics concerning bee keepers. It was in charge of Mr. Ralph Benton of the University.

"Rainmaker" Hatfield is still working the San Joaquin Valley. This time he is endavoring to secure a contract from the farmers near Volta, a small town near Los Banos. The "rainmaker" claims that he can increase the ordinary rainfall one hundred per cent.

The organization recently formed at Porterville to look after the interests of citrus growers of that section, especially with reference to insect pests, is urging the formation of a county organization. The committee preparing by-laws is composed of J. A. Milligan, Hobart Webster, H. C. Carr, C. A. Boston, and W. P. Bartlett.

## Southern California

Picking and packing of oranges began in the Redlands district last week.

Southern California was visited by the heaviest storm of the season last week.

The value of walnuts shipped by Ventura county last year aggregated $370,000.

The Orange County Preserving Co. has canned this season 20 carloads of tomatoes.

Some 30,000 rainbow trout were shipped from the Sisson Hatchery to Santa Paula last week.

The county fair held in El Centro, Imperial county, last week was proclaimed a complete success.

The Forestry Society of California, with offices in Los Angeles, has elected Abbott Kinney president.

San Diego is getting ready for a great world's fair to be held in 1915 at the completion of the Panama Canal.

There are 19 cooperative walnut growers associations operating in Los Angeles, Ventura and Santa Barbara counties.

West Highland, San Bernardino county, claims that its oranges are ripening much earlier than in neighboring sections.

The big Limoneira Lemon Co. at Santa Paula, is still doing extensive drainage and other improvement work in its orchards.

The president of the Farmers State Educational and Co-operative Union delivered an address before the farmers union of Imperial county last week.

The Orange Growers Association of Hemet, Riverside county, has just settled up accounts for its first year's work. Returns have been most satisfactory.

A movement is on foot in Orange county to form a union chamber of commerce representing Placentia, Olinda, La Habra, Orangethorpe, and Fullerton.

Orange growers at Rialto, San Bernardino county, are pleased at the large increase of water supply brought about by the Mt. Vernon Water Co.

Producers of Orange county are exasperated at Japanese laborers, and the chamber of commerce of the county is asked to discourage their further employment.

A big feature of the fair held at El Centro last week was the exhibit of cotton, showing all stages of the industry from the growing plant to the finished product ready for the loom.

On Dec. 5th the Los Alamitos sugar factory, Orange county, finished slicing for the season, having handled a total of 80,635 tons of beets with average sugar content of 20 per cent, the highest ever.

The board of supervisors of Riverside county has passed an ordinance which makes it necessary for every person or firm in the business of spraying or fumigating trees or plants to first secure a permit from the horticultural commissioner of the county.

## The Coast

Bluestem wheat is commanding $1.12½ at Colfax, Washington.

Arizona navels are commanding as high as $3.75 for half boxes in the New York market.

Owing to the switchmen's strike potatoes have advanced a dollar per ton all around at Seattle.

The University of Idaho offers a short course of ten weeks in forestry, the term to begin January 7th.

The western parts of both Washington and Oregon have suffered heavy losses from the floods of last week.

The Portland Livestock Exchange offers $600 in premiums for best Christmas cattle received at the stockyards.

The coldest December weather given to the vicinity of Asotin, Washington, was on the 3rd when the thermometer reached zero.

Farmers about Lewiston, Idaho, are holding their wheat for a dollar a bushel. Over 7,000,000 bushels were produced in that district this year.

Klamath county, Oregon, has sent a carload of exhibits to the International Livestock Exposition at Chicago and the Corn Show at Omaha.

Alfalfa growers near Phoenix have found an exceptionally profitable crop in alfalfa seed. It is said to yield between five and six hundred pounds per acre.

An irrigation scheme at Weston, Oregon, contemplates expenditure of a quarter of a million dollars to build a dam 1100 feet long and 210 feet high.

Fruit growers of Milton, Oregon, held their annual meeting December 9th. Their association has handled over a hundred cars of fruit for the season.

Farmers near Reno, Nevada, are working for a factory having capacity of 600 tons of sugar beets daily and to cost in the neighborhood of a half million dollars.

At the annual meeting of the Chelan county horticultural association at Cashmere, Washington, on Dec. 18, the society will discuss the Lafean grading and packing bill.

Grain growers of Pullman, Washington, have already disposed of from eighty to ninety per cent of their crop. Those who still have wheat are holding for higher prices.

The farmers union at Lind, Washington, refused to join the combination agreeing to sell bluestem wheat at one dollar, and is now selling at several cents in advance of that price.

The Washington Livestock Association will meet in Spokane Jan. 4 and 5. Of importance to the entire Northwest will be discussion of efforts to secure uniform laws relating to the stock industry.

Many agriculturists in the Hawaiian Islands have begun to experiment with cotton culture. Director Wilcox of the Hawaii Experiment Station has been investigating cotton conditions on the mainland.

**LOOK**

The two upper pictures show absolutely all there is to the light, simple, sanitary Sharples Dairy Tubular Cream Separator bowl. It can easily be washed perfectly clean in three minutes and has twice the skimming force of common bowls. Wears a lifetime. The World's Best.

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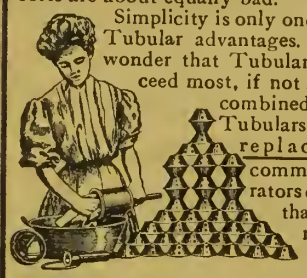

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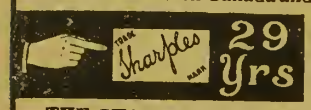


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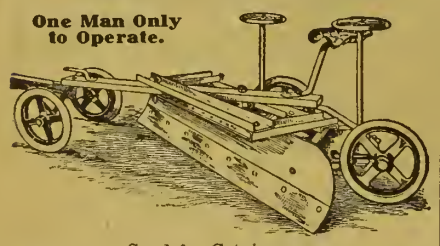

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# Live Stock and Dairy

Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

## ALFALFA.

By Mrs. M. E. Sherman.

THE soil for alfalfa should be deep and mellow, as it is a deep rooting plant. The soil texture or mechanical condition should be loose or friable rather than hard or having the tendency to run together. Alfalfa plants have learned to put up with many adverse conditions and yet give returns of good value. Like President Taft this plant has learned the lesson of the necessity of compromising if things are to run smoothly. Well cultivated soil rarely fails to secure a "good catch of alfalfa." The land that fails to start off well is the old grain field or the land that has never been plowed at all before the time of plowing to set out the alfalfa. I believe it is safe to say without any reservation that the best stands of alfalfa in this neighborhood are found on land that has been in cultivation for years as orchard or vineyard. There are many small pieces of this character scattered over the neighborhood that are now in alfalfa, resting before planting again to vines or fruit trees. The catches are good also on land that has been cultivated the summer before it is planted to crops like corn, water melons, pumpkins, beets or anything that means summer cultivation and irrigation to put moisture, sunshine and air into the soil.

### Conditions.

The lands of California that are used to grow alfalfa are away from the Coast fogs and dampness and were often classed as arid before the building of the irrigation ditches. Now these desert land conditions have produced pronounced mechanical effects on the soil that must be considered in planting crops. The winter rains came on the great plains and the green vegetation sprang up quickly. These annual plants grew up rapidly, used the surface water and did not penetrate with their roots for more than a few inches below the surface. As soon as the rains ceased the grass dried and blew away. Now think of the conditions in the country beyond the Missouri River. There the summer rains induced decay and as the plants grew the leaves dropped off a little at a time and were beaten into the soil until a layer of vegetable matter was formed. This humus or organized vegetable matter was available at once for plant growth. In the California springtime the thick mat of vegetation on the surface used up the rainfall as fast as it came and the root systems were too shallow to go deeply into the earth. So neither roots nor rainfall penetrated deeply into the earth. We have, therefore only a shallow depth to which the air was taken into the land.

### Grain Farming.

The grain farmer was the first to turn over most of the soils in the State. The gang plows ran over many acres planting the grain at the same time and only doing shallow surface work. The grain farmers plowed and the cereals they grew were all shallow or near to the surface. The result was the forming in many places of plowsole, or as it is sometimes called, hardpan, at five, six or seven inches from the surface. This is merely a dense mass of hardened compact earth that must be broken up if the young alfalfa plant roots are to be properly nourished. The big two disk plows are the tools to do this work thoroughly. In the East these conditions are not met with to any extent owing to the freezing, for as the frost comes out of the ground it breaks up the soil particles into a mellow mass. We can secure this deep opening up of soil in California by the use of the cover crops to act as underground plows. The roots of the vines and trees when the land is cleared and planted to alfalfa are left deep in the ground and quickly the new roots find their way down along the channels of humus left by the decay of these roots to the under soils. In California the humus we have in the soil is less in quantity but richer in quality and goes down much deeper in the ground. As bacteria are always associated with humus it is enough to say that the soils of California carry bacteria at a greater depth than any known soils.

### Frosts.

The past two mornings have been very cold and frosty and it is good for the trees and vines as they go to sleep promptly and will not bleed under the pruning shears. The loosening effect on the grain land is noticeable and it makes the soil friable on the ground that was turned a little too wet. If the vineyards were all plowed when this cold came the thrips would be routed out. Today I noticed the thrips had taken refuge in the olive trees and were not in the leaves or on the ground of the vineyards.

### Checks.

The untrained eye is a gay deceiver as one finds out when he looks over an apparently smooth piece of ground that is to be leveled for alfalfa. When the surveyor's level comes into use it shows many irregularities. These irregularities should be leveled away, for it is a foolish waste to plant poorly leveled land. The fact that some land does not need irrigation every year makes it imperative to have it so that it can be irrigated when it needs it. The year that is very dry is the year that hay is scarce and will bring higher prices. If the land cannot be watered hay will have to be bought for the cattle.

Before leveling the land, plow it lightly merely enough to fuss up the surface to make it loose enough to incorporate well with the fresh soil laid on it in the leveling and checking. Then check the land carefully. Make the checks reasonably large. This patchwork of six or eight to the acre is foolish. Two is about right for average land and on some land one is plenty. The spots that have been scraped off should have some fine manure or corral scrapings put


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on them. This is also a good way to work in some alfalfa bacteria by using manure from alfalfa fed animals. The manure used will need to be worked over with a fork until only the finer portions are left. The coarse loose stuff is then carried to the orchards and the finer stuff to the alfalfa field. Cover the scraped portions with the manure. It will not hurt to cover all the field if the manure is plentiful enough. The rest of the land may then be given a coating of gypsum, four to eight hundred pounds to the acre. When this is all on plow the land deeply and harrow and cross harrow until a fine seed bed has been formed. If it rains during this time so much the better, but keep the harrow going until the surface is smooth and loose. One reason why it is important to plow all the ground lightly before beginning to level at all, is that it is the only way possible to make the check solid enough not to seep water under them. A terra cotta tile placed under the check to carry the water into the next one and closed on the upper side with a wooden head gate will prevent washing out. The head gates should be numbered one, two, three, four and so on, as they come into use in irrigating the field. It is then easy to send a man out to open number so or so. When the highest checks are filled with water the inflow can be stopped and the extra water let off on the next checks. Less water is used and no scalding takes place. The necessity of having land checked for flooding at some time in the year is very great as the gophers are not easily held down except by the aid of water.—M. H. Sherman.

## HYDROPHOBIA.

The losses in horses and cattle from hydrophobia as well as the danger to the human, has caused the Colorado Experiment Station veterinary department to investigate regarding this disease and from a report submitted by Prof. B. F. Kaupp we quote:

Rabies, when affecting human beings, is called hydrophobia. As this disease has caused a considerable consternation in several sections of the state recently, a few comments in this connection may not be amiss.

First, let us see about some of the superstitions associated with this disease. When a person has been bitten by a mad dog, the killing of the dog does not prevent hydrophobia in the person bitten. This is a joke, and strange as it may seem, has been taken seriously by many people who should know better. Better lock the dog up for a few days and see if the disease develops. In case the disease does not develop the person bitten need have no further anxiety. If the disease does develop in the dog, the person will then have plenty of time to go to a Pasteur institute (in Chicago, or Austin, Texas), and take treatment, which will positively prevent the disease from developing.

Again, the common belief that a mad dog will run with his tail between his legs, and froth at the mouth is a mistake. The mad dog carries his tail in quite a natural position, and while the mouth may be open from paralysis of the lower jaw, yet he can not truly be said to froth at the mouth.

### Fake.

The "mad stone" is a fake, pure and simple. It is nothing but a piece of porous stone (like soap stone), which when dried and then placed on a moist surface will absorb water, or blood, or anything of a fluid nature. After a person is bitten by a mad dog, the germs of the disease are very soon absorbed into the system. The absurdity of going a week later to some remote part of the country and applying the mad stone with a view to its absorbing the poison, is too evident to be worthy of further comment.

### Not All Affected.

About twenty per cent. of persons bitten by dogs actually rabid will develop the disease, if they have not received treatment. About eighty per cent. of the dogs bitten will develop the disease, if the wounds are not cauterized. All warm blooded animals have this disease, or may take it by inoculation. The bite of a rabid wolf or a coyote is said to be very dangerous.

### Worth Remembering.

Rabid dogs are not afraid of water (hydrophobia). Paralysis of the lower jaw and the hind legs gradually develops. Beware of the dog that appears to have a bone in its throat—it may be rabies. The eyes in this disease are very sensitive to light; hence the dog usually crawls in under the porch, or some other dark place. Skunks are subject to this disease, and when so affected do not hesitate to enter houses and bite individuals.

If bitten by a suspicious acting dog, cauterize the wound at once, but do not kill the dog. If the dog develops rabies within five days, the person bitten should start at once for treatment. Don't get nervous and go into hysterics, even though you are sure you have been bitten by a mad dog. You will have plenty of time to take treatment before the disease develops if you start at once. Rabies is only transmitted by the bite of a rabid animal. If you go to a Pasteur Institute at Chicago, it will cost you a hundred dollars for treatment, besides other expenses. In Austin, Texas, the treatment is twenty-five dollars.

In case a mad dog is found in a community, all the dogs should be muzzled for sixty days.

## LIME IN STOCK WATER.

Sprinkle lime in the watering trough, and not a particle of scum will form on the surface. When the lime loses its strength, scum will begin to form, which may be twice during a season. Wash out the trough and repeat the dose. It is cheap, harmless, wholesome; keeps the water sweet and saves the livestock.

To breed and rear strong, healthy pigs, it is essential that the sow should be in good fettle and free from disease. It is not necessary to feed rich food when suckling her pigs, but a sufficiency of suitable sweet and wholesome food should be given.

If the hogs have not a southern exposure where they can lie in the sun out of the wind, give them one. They will do much better with it. Anything that increases the comfort and pleasure of stock makes it more profitable.

**Cured pulp from Los Alamitos Sugar Factory silo at $1.00 per ton.**


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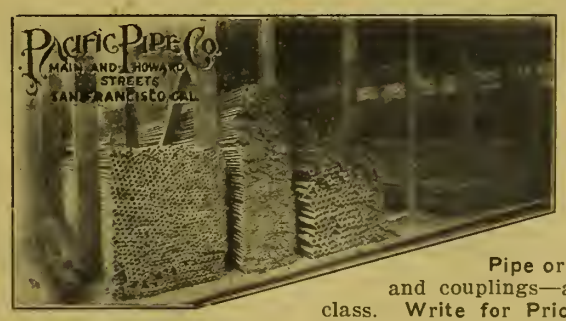


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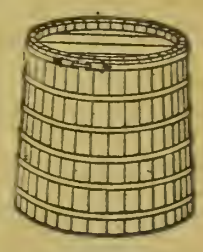

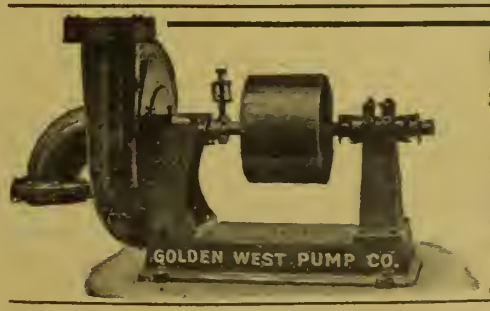


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will carry you the farthest and the longest for the least money.

The
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is not the lowest priced auto but it is the cheapest in the end.

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Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP.. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to Petaluma, Sonoma Co., Cal.

The Washington State Horticultural Association has an interesting program planned for its meeting at Wenatchee, Jan. 12 to 14.

## BIG PROFIT IN PORK IN HAWAII.

Among the various lines of animal industry which can be largely increased, with good profit to those who engage in it, is that of pork production. At present the hogs raised in the Territory do not nearly supply the actual demand for pork. There is a constant and active call for hogs at ten cents a pound live weight, which is a considerably higher figure than is ever obtained on the mainland. During the past year one firm alone in Honolulu imported 35,000 pounds of pork loins from the mainland.

The climate of the islands is excellently adapted for pork production. Hogs can be allowed to run on pasture the year round and require a minimum amount of expenditure for buildings, feeding troughs, and other constructions belonging to the piggery. In order to get an idea of the profit which can be obtained from selling hogs at ten cents a pound, live weight, it is only necessary to consider the fact that in actual experiments, where all items of expense were carefully noted, it has been found possible to produce pork at from 1½ to 3½ cents a pound. A mistake, which has sometimes been made by pork raisers in the islands, consists in buying imported bran, barley and other feeds which bring the cost of production up to seven or eight cents a pound. At a cost of three cents a pound, there is sufficient margin to make a magnificent profit in raising hogs for any one who understands the business.

The troubles which the hog raiser experiences here are no greater than those to be met in the corn belt of the mainland. Hog cholera does not prevail as extensively as it does in the corn belt, and can easily be avoided entirely by exercising care in the importation of breeding stock. and by the observance of ordinary sanitary precautions.

The breeds which have thrived best are Berkshires and Duroc Jerseys; but other breeds may perhaps prove equally well adapted to our climate. On all of the islands there are considerable numbers of hogs which have escaped domestication, and which have developed a very hardy type of razor-back; but these wild hogs do not produce pork so economically as pure breeds or grades.

There is a great abundance of feeds suitable for pork production from which to make a choice. In most localities, alfalfa thrives well, producing ten or twelve crops per year, and may be fed green or grazed by the pigs. In addition to alfalfa, we have soy beans, cow peas, corn, and untold quantities of algaroba beans. On algaroba beans alone, hogs make a very rapid increase of weight at a cost of about 3½ cents per pound. These beans may be purchased at present for $7.50 per ton, which is far under their actual feeding value. Furthermore, papaias, taro and cassava may be grown in unlimited quantities and are economical feed for pigs.

With the present demand, far in excess of the local supply, and with the constant increase in this demand, there seems to be a better opportunity than in any locality on the mainland for a considerable number of farmers to engage in the business of pork production.—By Dr. E. V. Wilcox, Special Agent in Charge, Hawaii Experiment Station, Honolulu, Hawaii.

IMPERIAL VALLEY IS NOT ALL COTTON. Courtesy Calexico Chronicle.

## "STRINGY" MILK.

The books say but little about stringy cream, but a good deal about stringy or ropy milk. If the milk when first drawn shows no ropiness or stringiness, but, after standing twelve to thirty-six hours, develops a thickening and stringy appearance, there is no question but what bacteria are the cause of the trouble. There are many kinds of bacteria which produce this condition, but it is enough for our present purpose to say bacteria without going into the special forms which the bacteriologists have discovered.

Very frequently the milk is seeded with these bacteria from the water used in washing and rinsing the pails, cans and other milking vessels. This sugests at once that these milking vessels should be thoroughly sterilized before used. To do this they should be subjected for some minutes to live steam or to absolutely boiling water—simply hot water is not enough—it must be boiling. Pour into the can and then cover and allow the steam to kill everything that has life that may be in the seams or on the sides of the vessel.

Another source is in the stagnant pools in which cows love to wade and the grass and weeds through which they travel. In this case, bacteria get upon the legs and upon the udder and flanks of the cows and during the process of milking some of them are dislodged and fall into the milk, where they rapidly multiply and in time produce a stringy character of the milk or cream.

Still another source may be in the dust of the stable which falling into the milk pails seeds the milk with the offensive bacteria.

In either of these cases the remedy is, of course, to avoid the cause. Brush the udders and flanks of the cows before milking and then dampen them so that the loose hair and clinging dirt will not fall into the pail.

It is sometimes the case that only one cow in the herd produces milk of this objectionable character, but mixing it with the herd milk seeds the whole mess with these bacteria. It would therefore be an excellent plan to keep each cow's milk separate for a day or two and thus a certain whether one or two or mo of the cows are responsible for t trouble, and if they are, take speci pains to prevent anything fallin from their udders or flanks into th milk pails.—Hoard's Dairyman.

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(Prices marked in plain figures)
**Pease Bros. Furniture Company**
**640-646 South Hill Street**
**Los Angeles, Cal.**

# Profit in the Poultry Yard

**We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.**

## WORMS IN POULTRY.

By Mrs. Frank Metcalf.

IT seems that worms are very much more troublesome on the Coast than in the East; That is, certain kinds are; Gape-worm, which depopulates so many eastern hen-houses, is practically unknown here, but the intestinal worms abound, and especially the round worm.

### Round Worms.

This round worm varies in size from one-third to five or more inches in length, and its color is white. The head is pointed and the tail blunt.

While a few will make no very noticeable impression upon the health of the bird, many of them will cause serious disturbance, and even death. One lady reported having lost a flock of 250 fine chicks in a single season from this cause alone.

They mass themselves in the intestines and by their wiggling sometimes cause a stoppage. Generally the irritation sets up a diarrhoea, and as they eat the nutriment intended for the fowls' support, the affected bird becomes thin, has indigestion, pale comb and wattles, and a general appearance of distress. There are many worm medicines advertised for poultry which may be perfectly efficacious, but santonine is safe and sure. If you suspect worms, dissolve in the water to be used for mixing mash, two grains of santonine for each mature bird, or one grain for each chick to be treated. Mix just enough mash to be all eaten at one feed, quite dry, then add one-half teaspoon castor oil for each bird, (one-half of this for small ones). Try to collect all droppings and burn, or put out of reach of the fowls somenow. To this end it would be best to confine the fowls for a day or two after treatment.

This is not so comon as the round worm, but still some times found, and is identical with the tapeworm found in cats (Toenia crassicolis) and is supposed to be obtained from the liver of the mouse or, to be more exact, the fluke of the liver of the mouse. Chickens will catch and eat mice, as is well known, and the presence of a tapeworm will affect the fowl much as it does in human cases. Voracious appetite, but thin in flesh, and tape worm never suspected unless pieces happen to be noticed, like narrow tape, in the droppings.

In case tape worm is suspected, or proven, give the bird six drops of the oil of male fern in one teaspoon of castor oil in the morning while the crop and gizzard are empty, and if the supper was omitted, so much the better. Feed nothing for two hours dose, then give a light mash in which one teaspoon of castor oil is well mixed. This mash should be warm. A tapeworm three feet long has been voided by a hen, and the worm preserved in alcohol presented to the Reliable Poultry Journal, complete, head and all.

[redacted]he hen lost flesh, grew weaker [redacted] weaker, but had no cold or dis[redacted] that owner could discover. Finally suspecting worms, he starved her for thirty-six hours, then gave a stewed garlic feed, all she could eat, cut in short length. She ate heartily of this, and next day the worm was expelled. Hen recovered completely.

### Thread Worms.

Then there is the thread worm, which affects the lungs of hogs, and which sometimes affects poultry, and causes choking and sudden death resembling apoplexy. The affected animal trying to eat, all at once falls back, struggles a moment or two and dies, apparently in perfect health. This worm is said to be in the ground around old hog pens, and only a change to new ground will insure the rest of the flock from infection. If the lungs are examined a mass of wriggling white threads from one to three inches in length will be seen, so fine that the naked eye can scarcely see them yet so numerous as to cause the tissues of the lungs to be dark and inflamed, and death may be caused by consequent hemorrhage, or simply the choking caused by the irritation these masses set up.

No remedy has been found effectual for this pest, save and excepting to move the living stock to fresh soil.

## CHICKEN POX.

So many are asking what makes the sores on their chicks' heads, resembling warts, sometimes with yellow pus, forming dry scabs, which make the poor fowls present a woeful appearance, and if left unchecked, causes death. This is chicken pox, and the cause is said to be (one cause, anyway) the female flea, which buries itself in the soft, fleshy parts of the fowls' heads, and the sore ensues. Young turkeys are especially liable to this trouble, and close examination will reveal dozens of little black fleas, sticking tightly to the heads around the eyes, the ears, under the bills and on top of the heads. The head should be immediately and thoroughly greased with vaseline which has been melted and ten drops of carbolic acid to the ounce, stirred in as it is cooling. A drop or two of spirits of camphor added to the above, in the same manner will make it much more effective, and the treatment should be repeated in a week or ten days, first washing the heads with warm soap suds, using good, pure castile soap, and drying well before applying the ointment.

Scrubbing the house well with hot salt water, at the same time spraying and dousing the floors under the roosts and the yards with hot salt water, is said to be a sure way to drive the fleas from their abiding places. And it certainly is cheap. But it takes a plenty of it, and will help discourage any mites lurking around, as well. We lose sight of the simple home remedies so often, in our search for cures and disinfectants. Salt and water is good for several things. Our home doctor always used it for simple sore throats, as a gargle, and we should sometimes try it for the simpler forms of cold in the heads of our chickens. A warm salt water douche, dipping the head well under until the bird strangles


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***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90. 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

$2.60 FREE. If you will send us the addresses of ten persons who have any fowls, we will send you, post-paid, our Biddy Booklet and an article worth ten cents, which many say no household should be without. If you will send us twenty-five addresses, we will also send you The Poultry Manual, profusely illustrated, by those high authorities, F. L. Sewell and Ida E. Tilson, a reliable work worth fifty cents, but free to you. For 100 addresses we will also send free, and expressage prepaid, another most useful article which sells in the East at $2. We merely want to send to them, by mail, some advertising matter, but your name will not be mentioned in connection with it in any way.

# West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

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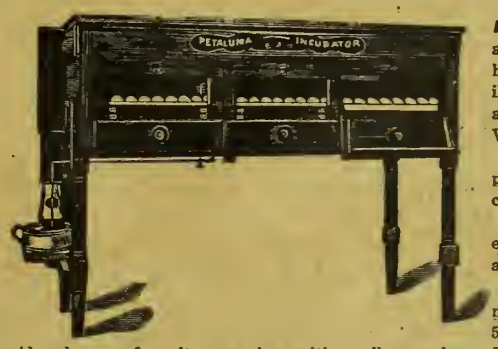


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One firm of poultrymen has 47 504-egg Petaluma Incubators giving a capacity of 24,000 eggs at one time.

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We have stated before and we ***again*** state that more Petaluma Incubators and Brooders are used than all other makes combined in Petaluma and all that great section of the country west of the Rocky Mountains, which is more than one-third of the entire United States, and the Petaluma is fast reaching a similar position among Eastern poultrymen. As rapidly as its merits become known does it supplant all other kinds.

## Midland Poultry Feed

Is the best ground mixed feed and hundreds of the successful chicken raisers use no other. Ask for it and take no other.

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**Petaluma, Cal.** **Indianapolis, Ind.**

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# The "JUBILEE"

This Incubator pleases every one, and NEVER disappoints anyone. It is known the world over as the BEST hatching machine EVER BUILT. If you wish to get the BEST results, then use the JUBILEE. Our Catalog tells all about it.

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**Feed your Chicks**

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**Special Dry Chick Food**

and watch them grow.

Compare it with other chick foods on the market and see the variety of clean wholesome grains and seeds it contains.

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will insure successful hatches every time. No. O Incubator, 100 egg capacity costs less than $12.50. Freight paid to your station.

Send for our catalogue it explains why Defender Incubators are best.

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**CROLEY'S**
**High Protein Meat Scrap**

Just what the name implies.

**A Meat Scrap High in Protein**

Not tanned nor embalmed and thoroughly digestible.

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might help many a cold, if taken in time. Salt should always be added to their food in some way, or feather eating will result, for the fowls system demands a certain quantity, small in proportion to our own, but urgent, nevertheless. A good sized handful of salt should be added for every twenty-five pounds of dry mash. And the birds will say, "Thank you."—Mrs. Frank Metcalf.

## POULTRY QUERIES.

### Change of Feed.

I have about 125 chickens which includes both hens and roosters, old and young. They run at large all summer, picking their own food. Out of about 80 hens I averaged about fifteen eggs per day. Have had them penned up for 10 days feeding kaffir corn in the morning and soaked barley at night and they have quit laying altogether.—Mrs. I. W., Holtville.

I think the change from free range to close confinement has had something to do with the stoppage of laying, and would suggest a more balanced ration: Suppose you have a long box made, three feet long and eight inches wide and deep, divide it into four compartments, three small ones at one end six inches each, and cut a piece of inch wire mesh just to fit loosely inside each part. Fill one part with oyster shell, one with charcoal, one with good sweet beefscrap and the large one with the following dry mash mixture: Wheat bran 36 pounds, shorts 18 pounds, yellow cornmeal 18 pounds, alfalfa meal 18 pounds, linseed meal 6, and 5 pounds Lee's Egg maker. This must be well mixed by shovelling it back and forth on a smooth floor, or in a large box, then the box kept filled so the hens can have access to it all the time, a water vessel being set near by, so they can drink often while eating. The boxes should be covered with a board which is raised three inches above the box proper by higher end pieces, so as to allow them to eat without wasting the food. The wire netting is placed on top of the mash and follows it on down to the bottom, keeping it from being wasted. These feed boxes should be under shelter, so as not to get damp, or the mash will mold. In addition to this mixture, green food of some kind must be fed daily, cut alfalfa being about the best standby, cut fresh every day, unless lawn clippings are available. The grains should be alternately fed in a litter of straw so as to make them scratch for every grain. If you have no scratching shed hoe up a place in the ground, and bury the grain where they will have to scratch it out to get it. If some sprouts, all the better. A good handful to each crop is about the right amount of grain to feed daily. The above is the way the best laying flock of hens I know of are fed in close confinement. —Mrs. Frank Metcalf.

### Tuberculosis.

One of my hens got sick about a week ago. She seemed to have vertigo, and I treated her for that; when she got no better we killed her. There were rough looking white patches on her skin, mostly between her legs. On the liver, heart and lungs there were white spots as big in circumference as a pea. The lungs were inflamed. The other chickens seem to do well, are active, but do not lay well. Could this be tuberculosis?—Mrs. F. K., El Centro.

I am very much afraid this is tuberculosis of chickens, and that you must remove the remainder to new yards and thoroughly disinfect the house and yard where this hen was running, lest the contagion spread to the others. Also give them a litle olive or codliver oil in their mash food, twice a day for a couple of weeks or more. This with a little tincture of iron in the drinking water, which may as well be given by putting rusty nails in the water as any other way, and plenty of nourishing and easily digested food, of which good American yellow corn should furnish a part, ought to bring them out all right.—Mrs. Frank Metcalf.

### Dry Mash.

I have been buying Creolium and find it just as you state, exactly. I have used the different stock foods and find them very expensive. In your article of July 8th, on the Model plant of Mr. Hammons you say, among other things; feed consisted of grains and green food once a day, and a hopper of dry mash, composed of beef scrap and grains. Will you kindly send me the formula for the dry mash above referred to?—J. W. R.

Regarding dry mash, I have interviewed Mr. Hammons, and he gave me the following formula, which he recommends very highly, stipulating that each ingredient be the best of its kind procurable. As he buys in car lots entirely, and does not hesitate to return anything not just right, he finds that he can feed a hen for a year for $1.20 and keep her in laying condition.

In the first place, one should have a hopper made to hold beef scrap in one compartment, oyster shell in another, charcoal in a third, and the mash proper in the largest compartment. Say one feed box is three feet long and eight inches wide, three small compartments six inches each should be partitioned off for the shell, charcoal and beefscraps, and the rest filled with the mash which is mixed as follows: 2 parts wheat bran, 1 part shorts, 1 part yellow corn, 1 part alfalfa meal, ½ part linseed meal and 5 per cent Lee's Egg-maker. Mix this thoroughly by shovelling it back and forth in a box and measure by weight. Keep the boxes filled, and the hens will only take what beef scrap their system requires, which will be more at some times of the year than at others. All whole grain should be fed in litter to make them scratch, and good sound yellow corn three times a week is what Mr. Hammons recommends the year around. And his hens lay the best of any I know of at the present time.

He gets a daily yield of 42 per cent from his 1100 hens and pullets, and the fertility runs high so that he is taking off almost daily hatches of 80 per cent, having more than the above average of vitality. I think he feeds enough of the grain at night, so that there will be enough left in the litter for the morning meal, which induces early exercise. To be exact in measuring the mash food, say if one wants 100 pounds mixed at once. Get of bran 35 pounds, of alfalfa meal 17 pounds, of yellow corn meal 17 pounds and of shorts 17 pounds, of linseed meal 8½ pounds and 5 pounds of Lee's Egg maker. This makes 99½ pounds of feed in very nearly the right proportions.—Mrs. Frank Metcalf.

### Diseases and Remedies.

I have thoroughbred white rocks and white leghorns crossed. Do they make as healthy fowls as if kept separate? I mixed them for the first time last year. When pullets were seven and eight months old many


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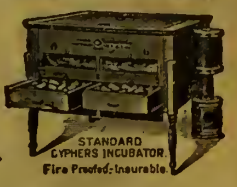


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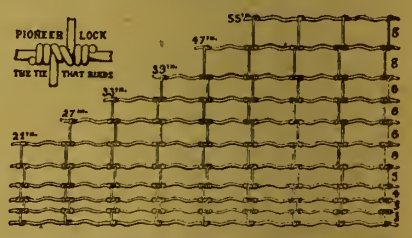


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died suddenly. On dissection their livers were found to be greatly enlarged and spotted. What causes feather eating habit? Some of my young chicks have sore throats, phlegm in throats and high fever. Yellow spots show in their throats. How can I keep it from spreading. When my hens are about one year old their legs get rough and scaly. Is this a disease, and how treated? Some of my hens have dry thick scabs on combs, nose and ears. What is it, and how can it be treated?—Mrs. E. V. S., Glendora.

White Rock and White Leghorn cross ought to be just as healthy as either a thoroughbred Rock or Leghorn, but we can see no gain in a cross of any description. When you cross any breed of thoroughbred fowls you have mongrels, and certainly nothing is more unsightly on a place than a lot of mongrels. Even though they be of one color they will be different shape and size, some with white legs others with yellow, different shaped heads, etc. In fact you will have an unsightly, unsymmetrical job lot.

Your birds have liver trouble, caused by improper feeding, foods which are too rich or too heavy in their proportions of starch and fat-producing elements.

Feather eating is one of the vices that is first caused by improper feeding and lack of exercise. Rarely does the habit exist among fowls that have free range and are fed a balanced ration. The habit will spread from one bird to an entire flock. Separate those that have acquired the habit and feed them liberally fresh meat, feeding them grain ration in a litter and make them work for it, keep your birds busy and you will not have one-half the trouble either with injurious habits and vices or disease.

Your birds have roup—which may be contracted in various ways such as draughts through improperly constructed and ventilated houses, overcrowding, or where fowls and chicks are allowed to roost or crowd together and thus become heated, and afterwards chill when they go out in the cool of the morning. Treatment: Clean up your house and yards, disinfect, find the cause and remove it. For immediate treatment buy some of the roup remedies advertised in our columns and give according to directions.

Scaly leg is caused by a parasite burrowing under the scales of the legs and feet. A few applications of equal parts of kerosene and lard to which a little flowers of sulphur has been added will cure it.

An article on chicken pox was given in our issue for November 25. —F. H. T.

## MATING TURKEYS.

In mating turkeys, it is better to use fair sized, mature hens and a vigorous, medium-sized tom than to depend on securing size by mating a very large tom to undersized and young hens. The latter mating will probably give leggy poults that do not flesh up well while the offspring from the former will be compact and more likely to lay on flesh in breast and thighs. Neither hen nor tom should be under one year of age, and it is desirable that the hen be two years old. In selecting a male bird constitutional vigor is of first importance and it is vital that the birds be unrelated.

In many localities turkeys will be found that have been bred for 30 years or more; the whole flock raised from one pair and with no addition of new blood. The poults will be found undersized, lacking in vigor and nearly imbecilic. The tom should have a good bony frame, round breast and long body and no matter what the hens are he should be pure bred of some of the standard breeds. A young, vigorous, unrelated bird from a long line, bred for certain characteristics will be likely to transmit these characteristics to his progeny.

If the hens are pure bred he should be the same breed, as crosses are likely to show the weak points of both breeds. Many advocate cross breeding to impart vigor, but this is attained just as well by securing birds entirely unrelated. It is usual to allow five or six females to one male and it is not customary for a tom to mate with a hen more than once for one clutch of eggs; one mating being sufficient to fertilize all the eggs laid during the season.—Farm, Stock, and Home.

## CAN THE COCKERELS.

Apropos of the old joke which made California people in the years of a big fruit crop "eat what we can and can what we can't," comes now the serious proposition that we may profitably do the same thing with surplus cockerels—that is, can them. One writes that when his cull cockerels get large enough to suit him he dresses and cans enough to last about a year for his family use. The roosters are cut up, boiled and then packed in two-quart cans, all air spaces being filled with gravy. Then the cans are closed, just as in putting up fruit. This plan has a number of advantages. In the first place, a day or two is given to the job, and it is done for the season. Again one does not have to board the roosters until such a time as they may be wanted to eat, and one has spring chickens the year around. And then, perhaps, the greatest gain is that the chickens are always ready for an emergency. When company comes a half hour or so before dinner, since they began to can chickens, it never worries them.—Fancier.

## ANIMAL FOOD FOR POULTRY.

Bones and meat secured from the butcher and cut into fine pieces by means of a bone cutter are perhaps the best substitute for the insects a hen finds when on free range. Horse meat, being free from tuberculosis is probably slightly preferable to that from the butchers' stalls. Skim milk is a good substitute for meat, but being so bulky the fowls rarely eat enough of it to supply the required nutriment unless it is soured to a clabber and whey drawn off. Dried beef scrap is a product of the packing houses and if of assured quality makes a fair substitute for fresh meat. It should be fed in hoppers and should constitute about 8 or 10 per cent of the grain ration.—Farm, Stock, and Home.

## THE HEN THAT SMILED.

A horrid old hen that ate all the eggs,
Had a terrible appetite, blast her—
It wasn't the hen with the yellow legs
That laid so well for her master.

She whacked at the China egg, peggety peg,
'Twas the hardest she ever had lit on;
Said she, with a smile, "If I can't eat this egg,
I'll save it and keep it to sit on."
—Farm Journal.


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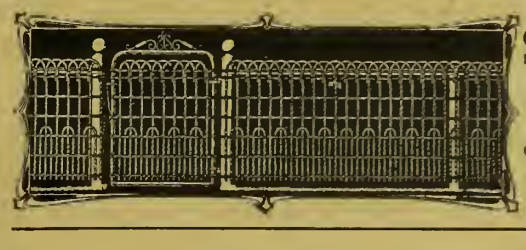

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# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Belgian Hare Feed.

What is the hest feed for Belgian hares when they have the slobbers?—Mr. Charlie Olson, Armona.

Slobhers are caused by indigestion, usually hy eating too much green food or green food which is wet with, dew or rain or worse yet, is frosted. Withhold green stuff for a few days, feeding dry oats or barley in the morning and dry alfalfa at noon and night, being careful not to overfeed. —B. J. O'M.

### Alfalfa in Young Orchard.

Is it practicable to plant fruit trees then seed ground to alfalfa? Will the trees do well if they are cultivated and kept well watered?—J. W., National City.

It is possible that if sufficient water is applied to keep alfalfa growing and not at the expense of the moisture helonging to the trees, this will be profitahle while the trees are young. It must, however, be borne in mind that the ground around the trees should be kept cultivated so that the air can enter the soil and aid the roots in securing best growth. We would not seed the alfalfa very close to the trees for this reason. It is harely possible that the ground could be left in fully as good condition or hetter by securing a few crops of alfalfa.

### Lost Registry.

Some years ago I hrought with me from my country two Percheron mares. From them I have raised four colts, all from registered Percheron sire, but during these years I have lost the registry of the mares. Can I get these colts registered now? They are full blooded and fine animals.—C. O., Geyserville.

We fear you will he unable to secure registry for these colts. However, we would advise you to get in touch with the Percheron Society of America, Union Stock Yards, Chicago; Percheron Registry Co., Columhus, Ohio; or Breeders and Importers Percheron Registry, Plainfield, Ohio.

### New Plums.

Please tell me where I can secure scions of the Santa Rosa and Gaviota plums you spoke of in issue some months ago. Will they do well here? Are they early or late?—Suhscriber, Auburn.

Scions of these varieties can probably be had of the Fancher Creek Nurseries, Fresno, at least they have the young trees, and where you wish scions to graft over peach trees it is possible they may he secured. The fruit ripens about the first of August. Whether or not these varieties will do well in your community can only be determined by actual test, but so far as we have learned they have proven valuable wherever planted.

### Gum Disease.

My seven year old orange trees pruned in June and fertilized with stable manure are in fine condition on medium heavy soil, but a few of them, less than five per cent, show spots of soft gum on the hranches. The bark shows spots of perhaps a half inch in size and gum comes out. In cutting the bark separates from the wood for a short distance around the gum. Sometimes there are only one or two spots and sometimes there are dozens scattered over the branches. In no case is there any gum on the trunks.—R. H., Riverside.

This was referred to the Southern California Pathological Laboratory and Mr. Clayton O. Smith, Assistant Plant Pathologist, answers: "This is probably a light attack of gum disease, for information regarding which see Bulletin issued hy this station. It is probably not a serious attack."

### Keeping Flowers.

I find it impossible to send hy mail such flowers as roses and geraniums. I have tried inserting stems in pieces of potato and also wrapping in wet packing, but with the same result that in three or five days in the mail they are so withered that they will not freshen up in water.—Guy H. Whetstone, Escondido.

We will pass this question on to our suhscribers and hope that amongst them may be some who can give our inquirer the information he desires. As a suggestion we might ask whether the packing was arranged so that the flowers could have air as well as moisture. We imagine that is one trouble with sending flowers through the mail. There are methods of dipping orange blossoms in wax and other methods of preserving flowers, hints on which we will appreciate from our readers.

### Dried Olives.

In your issue of Septemher 23rd you give recipe for curing olives, and the statement is made that drying them takes out the bitterness. I was delighted to learn this and thought it would he fine to serve them in the same way as raisins or figs. As soon as the olives were fully ripe I tried it, first dipping them in lye as we did prunes, but the terrible bitterness remained and no one could eat them. It was suggested that I should not have used the lye and I tried others without the dipping, but with the same result. I have always had confidence in the recipes found in the Cultivator and am anxious to try olives prepared in this way.—N. M. T., Orland.

The recipe referred to was furnished us by Mrs. Carrie Williams of San Diego and we have referred your letter to her and hope she will give us an answer in a later Cultivator. However, we note that the article she wrote formerly says, "The natural bitter of the olive to which some object, evaporates almost entirely during the process of drying and the natural richness and flavor of the fruit are both left instead of being wasted." We have eaten olives prepared in this way and have enjoyed them very much. They are not entirely free of the bitter, but when used in the lunch basket or for picnics are both a relish and a food. Where one has no liking for the hitter at all, he will never perhaps he able to secure satisfactory results by this process. We hope to puhlish more complete information from Mrs. Williams later.

### Almonds for Ventura.

Kindly give information as to most desirable almond to grow in Ventura county 120 miles from the coast at an elevation of 400 feet. Are the French or Italian varieties of chestnuts a success in Southern California? P. W., Ventura.

Any of the commercial varieties of almonds do well in Southern California in situation suitable to almond growing, except I. X. L. It never paid for its cultivation in any of the places I have seen it growing in the San Bernardino Valley. I cannot advise you as to your growing almonds in Ventura county after the general description you give of your location. What you need, is a location free from late frosts with water for irrigation and little or no fog after August and before the middle of October.

Chestnut growing has never been a commercial success in Southern California unless it is in some ohscure place or on a very small scale. The trees do well however.—J. W. M.

### A CORRECTION.

Under cuts of my birds in the Cultivator of Decemher 9th, you have credited my S. C. Red cock, who has never heen in the show room, with being a two year 1st prize winner. I am sorry to say that I do not own that hird. My R. C. cock was the winner those two years.

Kindly make this correction as I only want what belongs to me.—Chas. E. Winslow, Red Feather Poultry Yards, Monrovia.

Covina Citrus Association netted its growers for this season's shipments $365,413. Officers elected for the ensuing year are: C. S. Beardsley, president; J. R. Elliott, vice-president; G. N. Atwood, secretary and manager; First National Bank, treasurer; A. P. Kerchhoff, T. F. Griswold, A. M. Seeley, W. P. Watts, S. T. Berry, J. H. Brubaker, directors.

It is claimed that the Consolidated packers who have been endeavoring to hreak the raisin market, really did offer fancy seeded raisins at 4¾ cents when they were claiming to the growers that the price of 5 cents prevailed.

Farmers near Lewiston, Idaho, report the past season as the biggest ever given to that state.

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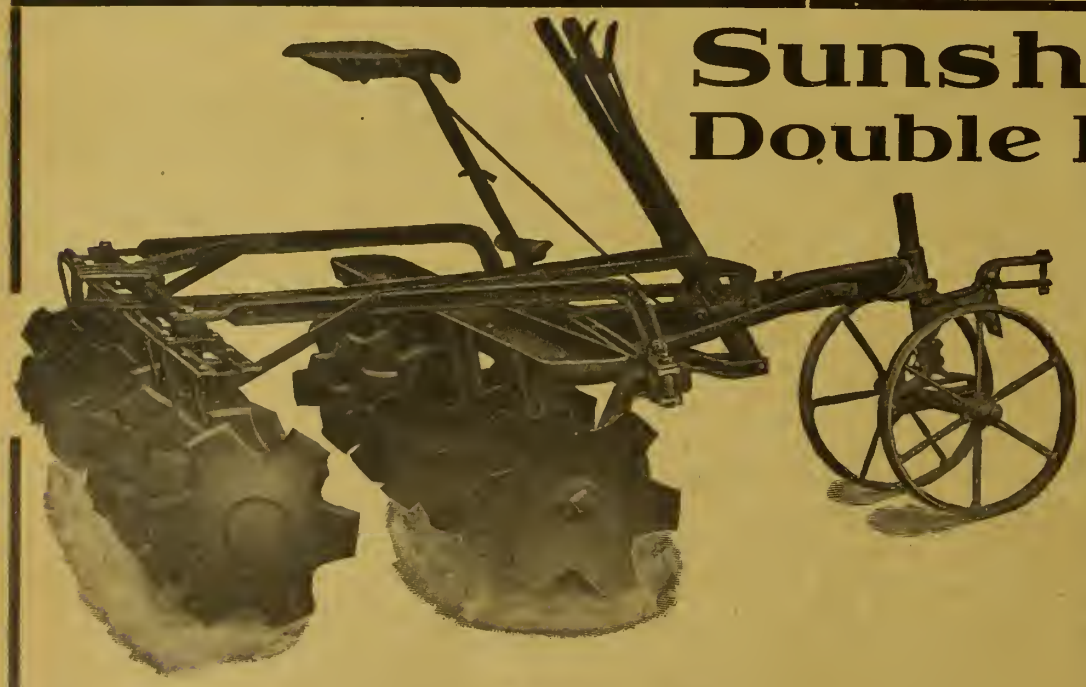

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### THE SPIDER A BENEFIT?

I read with interest the article, "The Spider is a Benefit," in the California Cultivator of Nov. 18. While I agree with most of what was said about the spider in that article, I respectfully differ from the author when he says: "I think there never has been one absolutely authentic case of spider bite." Lest some of your readers should be led by this assertion to handle carelessly certain species of spiders, I will give you my experience during the last summer. One evening in the month of July while I was emptying the contents of a sulphur bag in my barn, a middle-sized black spider crawled up my shoulder. My little boy tried to brush it off, but he missed it, and the spider got into my clothes. Presently I felt a slight sting or bite, and as I felt something moving under my shirt on my breast, I held or crushed the object from the outside, and on undressing, I found the black spider as described above. However, I got through my evening work without any difficulty, but in an hour's time I began to feel a peculiar sensation all over my body, a certain drowsiness came over me; I felt sleepy without being able to sleep. This feeling gradually gave place to strange painful sensations in different parts of my body, now my head, now my back, and so on. In about three hours' time I was suffering excruciating pain all over my body from head to foot. I tried various home remedies but to no purpose. The next morning I obtained medical aid, but still those terrible pains continued for three nights without a moment's rest. The spot stung by the spider had gradually become very red and the redness had a tendency to spread, and I had to keep this under control by a constant application of a lotion prescribed by my physician. I have been stung once by a scorpion and many times by bees and wasps, but I would rather be stung by all these three every day than by a black spider again.

I trust your correspondent will note at least this "one absolutely authentic case of spider bite." In the next place, as to the spiders being all benefactors of mankind, what about those minute red spiders which infest our orchards and at times destroy acres of trees? No insect that I know of does more damage to trees than this insignificant, almost invisible little spider.—T. I. Ambarch.

# Money Making Little Liners

In this department we will insert your advertisement under a classified head for 1½ cents per word. No ad accepted for less than 25c. Our classified columns are the clearing house for our many thousand readers.

## TREES.

CITRUS NURSERY—Township of Glendora, corner of Gladstone and Ben Lomond avenues, half-way between Grand avenue and Citrus avenue. We have for sale orange and lemon trees suitable for planting in the coming spring, Navel Oranges, Late Valencias and Eureka Lemons. In growing these trees we have used much care in selecting the buds from the choicest trees only of the surrounding orchards. L. M. NETZLEY, Azusa, Cal. Phone 4095.

A LARGE STOCK OF GRAFTED AND seedling walnuts, peach, pear, plum, prune, apple, apricot, grapes, figs, and all fruit trees in all leading varieties. Oranges, lemons, ornamental and shade trees. Anything in nursery stock from best buds and grafts. A. R. MARSHALL'S Nurseries, Box 64, Santa Ana, Cal.

BLUE ANDALUSIANS, VIGOROUS birds and layers of large white eggs. Just right for California and Arizona. For sale; few cockerels or trios for breeders. Eggs in January. L. A. WILSON, Winters, Cal.

VROOMAN FRANQUETTE AND MAYette walnuts grafted on black root. Grafted pecans, eucalyptus and berry plants, all kinds. Complete nursery stock, ornamentals, etc. Write your wants for special prices. TRIBBLE BROS., Elk Grove, Cal.

FOR SALE — STRONG OUTDOOR grown rooted cuttings. Send for 1-2-3 cent list. Other plants. Fine lot Blue Gums qt. tins—3 to 4 ft. GEM NURSERY, Los Gatos, Cal.

WRITE TO US FOR SPECIAL PRICES on first-class prune or peach trees or berry vines. State number wanted. GRIDLEY COLONY NURSERY. Gridley, Cal.

THE GOLDEN RULE NURSERY COMpany of Loomis, Cal., are closing out their nursery business and are offering their entire stock at greatly reduced prices. Write for price list.

TWO YEAR OLD FRENCH AND Italian prune trees $15.00 a hundred, grape vines $1.50 a hundred, choicest varieties Gladioli bulblets, $2.00 a thousand. J. BEAMAN, Kennan St., Santa Cruz, Cal.

FOR SALE—2 YEAR OLD EUREKA Lemon trees, balled, $1.00 each. C. D. HUBBARD. San Fernando, Cal.

## MUSIC LESSONS.

PIANO OR ORGAN LESSONS BY MAIL, —We have a new modern method and want you to know about it on the principle of "The proof of the pudding is the eating." Three lessons will give you a better idea than this whole page of talk.. Send $1.00 to The Cultivator and tell them to hold it three weeks, after which time to pay it to us unless you write them to return it to you. As soon as your money arrives they will notify us and we will immediately start giving you, or any one you say over 9 years of age lessons under our plan and will continue weekly lessons for three weeks during which time we will write you all about the full course and prices. Do it now. The West Coast Conservatory of Music, Pico Heights, Los Angeles, Cal..

## BEES.

FOR SALE CHEAP—FROM 100 TO 500 colonies of bees, location. Come and see, get a crop every year. FRED M. HART, Hanford, Cal.

## HONEY.

the west
Jan.

...E HONEY, GUARANTEED ABSO...itely pure. One 5 gal. can, crated, ...b., $4.25, two 5 gal. cans, crated, o.b., $8.00. HENRY E. HORN. River...de, Cal.

## MISCELLANEOUS.

STOCKMEN—"HORSES AND THEIR Care" by G. M. Young, "The Dairy man's Guide," by H. Wilbur Johnson, and "Handbook for Poultrymen" by Walter Randolph McIntire, for sale by W. J. STEWART PUBLISHING CO., Fresno, Cal. Price $1.00 each, postpaid.

ORNAMENTAL NURSERY STOCK. and large street trees to exchange for deciduous fruit trees, peaches, plums, and apricots preferred. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

FERNS—10,000 BOSTON FERNS FROM beds, ready for potting into 4, 5, and 6 inch pots, 5c, 10c, and 15c each, runners $2.50 per 100. CALIFORNIA FERN NURSERY, Box 188, R. F. D. 1, Los Angeles, Cal.

RAISINS—PRODUCER TO CONSUMer. Loose Muscatel—good quality—3c, in 50-lb. boxes. Send for samples. A. H. DUGDALE, Etiwanda, Cal.

## WANTED.

WE HAVE PARTIES COMING FROM East want to locate in California. If you have a good ranch for sale write description, price, location and terms. S. S. LEE, 508 Mason Bldg., Los Angeles, Cal.

WANTED—FARMS AND BUSINESSES. Don't pay commissions. We find you direct buyer. Write, describing property, naming lowest price. We help buyers locate desirable properties FREE. AMERICAN INVESTMENT ASSOCIATION. Minneapolis, Minnesota.

WANTED—HARDSHELL ALMONDS for seed purposes. Address, FANCHER CREEK NURSERIES. Fresno, Cal.

## GRAPE VINES.

FOR SALE—10,000 CUTTINGS FROM the best selling table grape in California (the Cornichon) all bearing wood. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

CHOICE GRAPE VINE ROOTINGS, Tokays a specialty, all varieties at market prices. ATLANTA NURSERY CO., Louis Vistica, Manager, Atlanta, Cal.

FOR SALE—TOKAY VINES, TRUE to name, $15.00 per 1,000, M. BOYARSKY, Orangevale, Sacramento County, Cal.

## FERTILIZERS.

SULPHATE OF POTASH
$60.00 per ton.

For a short time we will sell Sulphate of Potash at $60.00 per ton.

This is the right time to apply it for maturing the crop and the new growth of wood.

This price won't last. Get your supply now from the Armour agent in your district.

THE ARMOUR FERTILIZER WORKS, Los Angeles and Colton.

## CATTLE.

SPECIAL — FOR SALE, HOLSTEIN bulls, two old enough for service and a number of yearlings. Also a few calves that are small enough to crate. Jullanas, De Kols and all the strains for which this herd has been famous are represented. The only cows to hold World Records raised in the state were bred on this ranch. Same blood still represented largely in the herd. MINNEWAWA STOCK FARM, Fresno, Cal.

## DOGS.

COLLIE PUPPIES FASHIONABLY bred, a beautiful white spayed bitch, two handsome males sable and white. G. B. REEVES, Mountain View, Cal.

## MACHINERY.

FOR SALE—SECONDHAND WINDmills, tanks, pumps, engines at one half new price. Special, 12-H.P., Webster fine running order, $250; also 2 H. P. Engine fine jack belting, cylinder and pipe complete $120 on cars. New and redwood tanks at half new price. Large tanks for storage and reservoirs. Farm implements at half new price. Call and see. DEMMITT CO., 120 N. Main St., Los Angeles, Cal.

WE BUY, SELL, EXCHANGE AND rent machinery, Motors, Gas Engines, Compressors, Pumps, Hoists, Shop Tools. Some snaps in both new and used machinery. BAILIE & BRANDT COMPANY, 943 and 945 North Main St., Los Angeles, Cal.

FOR SALE—25 H. P. FAIRBANKSMorse Gas Engine. Like new. Also Pump. MACHINERY EXCHANGE, Main & Bruno Sts., Los Angeles, Cal.

FOR SALE—5 x 8 TRIPLEX PUMP, also Steam Pump. Corner MAIN & BRUNO STS., Los Angeles, Cal.

FOR SALE—DEEP WELL PUMP AND Cylinder. New. 117 BRUNO ST., Los Angeles, Cal.

## BERRY PLANTS.

STRAWBERRY PLANTS—FINE ONES. Pedigreed thoroughbreds, grown and restricted by scientific propagation, enormously productive. Same price as common stock. 60c per 100, $3.00 per 1,000 crated. From sixty varieties I have selected three of the "very best," Jessie, Marshall and Dollar. J. A. POWELL, R. D. 1, Ripon, San Joaquin Co., Cal.

10,000 IMPROVED SUPERLATIVE Red Raspberry Plants, the largest in cultivation, delights in hot weather, does not fall from plant when ripe. 100 plants $5.00. WM. RICHARD, 438 River St., Santa Cruz, Cal.

STRAWBERRY PLANTS FOR SALE. Magoon, $5 per 1,000; Brandywine, $2.50 per 1,000. Apply to F. E. TAYLOR, Soquel, Cal.

BERRY VINES—WE MAKE A SPEcialty of Mammoth, Himalaya, Phenomenal, Logan and Dewberry vines. Write for prices. GRIDLEY COLONY NURSERY, Gridley, Cal.

## RARE PLANTS.

WILD PLANT IMPROVEMENT GARdens, Santa Ana, California, NEWTON B. PIERCE, Proprietor. Rare choice ornamentals and new fruits from all lands.

GET OUR LIST OF EXCELLENT roses and ornamentals. Our careful handling insures your success. BALLOU'S NURSERY, Pasadena, Cal.

## SEED.

ONION SEED—THE AUSTRALIAN Brown is the onion for California, as it is the best keeper known. Our seed is the famous Maule Strain, 408 sacks grown this year from 1½ acres. We grow but one kind and guarantee them true to name. Price $1.25 per pound. Send orders to E. F. EDE, Kingsburg, Cal.

## HORTICULTURAL PRINTING.

THE KRUCKEBERG PRESS, 123 South Los Angeles St., Los Angeles, Cal., makes a specialty of Horticultural Printing and Engraving. Cuts and illustrations of all standard, economic and ornamental plants on hand and subject to the use of patrons without cost. Samples and estimates cheerfully furnished. Remember we design, write, engrave, bind and print; in brief, do the "whole thing," at no additional expense to the customer. Correspondence a pleasure; a personal visit a joy. Headquarters for catalogues and quadri-color printing.

## POULTRY.

GIANT BRONZE TURKEYS BRED from Eastern stock. I have been ten years trying to improve these beautiful birds. Last year my Toms weighed from 20 to 24 lbs. at six months, 28 to 30 lbs. at ten months. I guarantee them to be as I represent. Did you say what is your guarantee? If birds are not as I represent, send them back at once at my expense, your money will be refunded. One must give satisfaction or go out of business. Prices reasonable. Write for particulars. R. M. DODGE, Stockdale Kennels, Bakersfield, Cal., P. O. Box 118. Phone, Far., 9x1.

BABY DUCKS, CHICKS, AND FOX Terrier Pups. Mammoth White Pekin ducklings, White Rock and Rhode Island Red chicks. Good stock hatched from eggs from my strong, healthy breeders. Pedigreed English Fox Terrier Pups, sired by Hampshire Jester, registered No. 100699. J. W. LYON, Route 1, Box 170, Gardena, Cal.

WHITE ROCKS EXCLUSIVELY—Superior young stock. Pullets $1.50 up, cockerels $2.00 up. Orders booked for eggs, $2.50 per setting. Dr. T. J. DE VAUGHN, 30 N. First St., Alhambra, Cal. Phone, Los Angeles office, F 8429.

FOR SALE—GOOD BREEDING COCKerels, $2.00 and $3.00 each, S. C. Rhode Island Reds and S. C. Brown Leghorns, eggs for hatching at all times. Our birds are winners. FOWLER & MASTERSON, Box 100, Duarte, Cal.

DAY-OLD CHICKS FROM MY PURE bred, carefully selected stock of S. C. White Leghorns, $1.00 per 10, $9.00 per 100. Eggs for hatching $1.00 per 15, $5.00 per 100. J. R. HEINRICH POULTRY YARDS, Arroyo Grande, Cal.

FOR SALE—FIVE MAMMOTH Bronze Turkey Toms nine months old, from W. W. Howard's famous strain. None finer. Magnificent large birds, beautifully marked. A. C. WISEGARVER, San Fernando, Cal.

WHITE ROCK AND COLUMBIAN WYandotte eggs. From Los Angeles prize winning stock, $2.50 per 13 or $5.00 per 30. Stock for sale. Address J. W. WHITNEY, R.F.D. 2, Long Beach, Cal.

WHITE MINORCAS AT HALF PRICE. Owing to ill health I will sell out the balance of my beautiful young hens and roosters, in lots of not less than 10, at $1.25 per head. C. S. LANE, Santa Barbara, Cal.

WHITE MINORCAS (THOROUGHbred)—Eggs in season. Cockerels for sale. Also a few thoroughbred Houdans (cheap). L. V. PETERSON, Guerneville, Cal.

FOR SALE—MAMMOTH BRONZE Turkeys. Fine Eastern stock. Toms $6.00 each, hens $5.00; trio, one tom and two hens, $14.00. This is fine stock, none better. JOHN CARROLL, Victorville, Cal.

A FEW PURE BRED BRAHMA, Black Minorca and Rhode Island Red cockerels for sale. Apply to VINA RANCH, Vina, Cal.

THE SUCCESS LAMPLESS INCUBAtors and Automatic Designating Nests, both recently patented, are products of modern science. FRANCIS S. BARZEE (Patentee) Napa, Cal.

FOR SALE—BLACK MINORCA COCKerels. Wheelers Strain, $2.50 each. Incubator chicks $12 per 100, eggs $1.50 per 15, $6.00 per 100. Mrs. A. F. FRESE, Box 456. Dixon, Cal.

ELEANORE MINORCA FARM—ROSE Comb Black Minorcas. Eggs in season. Club catalogue free. Route 1, Los Angeles, Cal.

PIT GAMES—SOUTHERN AND GRADE Japs. O. L. CRANE, Route 3, Santa Rosa, Cal.

## FARM LANDS FOR SALE.

A GRAND OPPORTUNITY FOR HOMEseekers—A beautiful orchard home of 10 acres almonds interplanted with the best shipping grapes, also other fruits, situated in Orange Vale, Sacramento County, annual income over 30 per cent. Price only $5500. Also improved properties from $10 per acre up. Send for list. CHAS. J. SCHMID, Folsom City, Cal.

KINGS COUNTY LAND—60 acres at $95 per acre; good buildings; good location; good land; plenty of ditch water; suitable for dairying or general farming; some alfalfa fenced and crossed; terms. Address HOUSTON BROS. 220 N. Irwin St., Hanford, Cal.

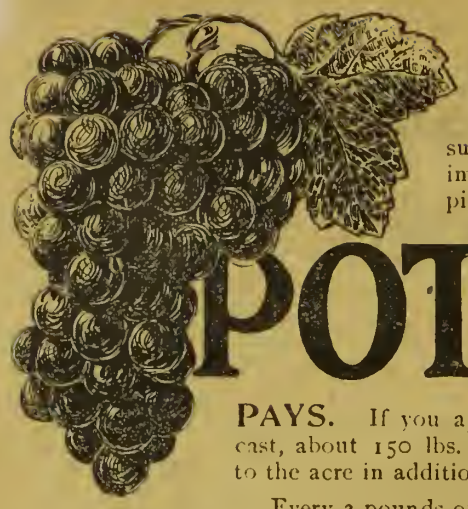
FOR SALE—40 ACRES FIVE MILES west San Jacinto, part orange and alfalfa land, only $35.00 per acre. Terms. Splendid bargain. JOSEPH COLEMAN, 145 W. Ocean Ave., Long Beach, Cal.

FOR SALE OR EXCHANGE FOR Los Angeles or Orange County acreage—140-acre apple, berry, vegetable and poultry ranch near Santa Cruz. WILLIAM RICHARD, 438 River St., Santa Cruz, Cal.

I MAKE A SPECIALTY OF ORANGE and alfalfa ranches and exchanges. 826 Main St., Room 9, Riverside, Cal. N. R. BELL.

## HOMES FOR CHILDREN.

HAVE YOU A BOY? IF NOT, LET us send you one. We want country homes for boys of all ages. Arrangements to suit. CHILDRENS' HOME SOCIETY, 2414 Griffith Ave., Los Angeles, Cal.



# GRAPES

need POTASH. It makes a hardier vine, increases the sugar content of the fruit and improves size, color and shipping quality.

# POTASH

PAYS. If you apply barnyard manure, broadcast, about 150 lbs. Sulfate or Muriate of POTASH to the acre in addition.

Every 2 pounds of Muriate of POTASH added to 100 pounds of fertilizer increases the POTASH total by 1%.

Send for *Valuable Text Book* about soils, crops, manures and fertilizers. Mailed on request, *Free.*

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***With Magnfying Glasses in the Telescope***

enables you to read Target at a distance of over 400 yards, therefore the problem of a FARM LEVEL with TELESCOPE at moderate cost has at last been solved. Voluntary letters from every State in the Union show the complete satisfaction it gives for all kinds of **DRAINAGE WORK, IRRIGATION, DITCHING, TERRACING** and every sort of farm work requiring a Level. GUARANTEED to be absolutely SIMPLE, ACCURATE, DURABLE and dependable in every respect.

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**Complete outfit** with full **instructions**, shipped anywhere C. O. D. **$15.00** and express charges. **Subject to Examination.**

# Cultivator Christmas Order

_____1909

Cultivator Publishing Co.,

115 No. Broadway

Los Angeles, Cal.

Gentleman—Enclosed find _____ for which please send the **Cultivator** to the following until January 1, 1911, stopping same at expiration.

| NAME | P. O. ADDRESS | STATE |
|---|---|---|
| | | |
| | | |

Also notify the parties named that the subscription is a gift from the undersigned.

SIGNED_____

ADDRESS_____


# Legal Queries

Edw. L. Payne, attorney, 301-304 Douglas Building, Los Angeles, will answer legal queries in this department.

Immediate mail replies cannot be given except where fee to Mr. Payne is paid. When replies are wished in Cultivator address query to 115½ No. Broadway, Los Angeles.

Mr. Payne writes:

"I owe the Cultivator and those who have made inquiries concerning legal questions, an apology, as I have been unable to answer queries for a number of weeks on account of the sickness and death of my associate in the law business, and the consequent loss of time, and rush of business, which has been very heavy, but enclosed find answers to the queries that have accumulated, and I hope to be able to give a little more time to queries in the future."

### Homestead Rights.

Can a man homestead government land when his wife now owns a quarter section secured under homestead rights? If she has secured it by purchase, would that affect his right of homestead?

If the wife secured her homestead by purchase and not from the Government, I know of no reason why the husband may not enter a homestead. The statutes of the United States, however, prohibit both husband and wife from homesteading, although the wife, if deserted, and the head of the family, may homestead or may complete her husband's entry, if he has abandoned the same. If the two are living together as husband and wife, the fact that the wife in her own right owns property, whether a homestead or not, I think would make no difference as to the husband's rights of entry.

### Entitled to Damages.

In April last I had a pipe line 300 feet long. Two days after it was finished, I turned about ten thousand gallons of water into it, which water nearly all ran out through 36 holes where the joints were badly cemented. Since then the contractors have tried to mend it several times but everytime I turned the water in, a large quantity ran out through holes, so that I lost my alfalfa, as I was short of water. They have been mending it for nearly seven months, and there are still four leaks in it. My loss has been great, as I needed this alfalfa for my 2,000 hens, am I fairly entitled to damages?—A. M. J.

Your are entitled to damages, as the contractors should have done the work in a good and workmanlike manner, using proper material for that purpose.

### Public Nuisance.

If A builds a house within ten feet of the line between him and B and afterwards B devotes his entire lot to chicken and cow corrals, the line fence between A and B is 13 feet from A's house; which house is six feet above B's lot.

If said corral should be kept as clean as possible, would the fact that the corral is a corral and deters people from buying or renting the property adjacent to it, constitute a public nuisance?—L. B.

No, the facts set forth in the inquiry do not show a public nuisance, and not even a private nuisance, but if the proximity of the corral, and the manner in which it is kept, endanger the health of the adjacent resident, it might possibly be abated as a private nuisance. If, within the city limits, where ordinances prevail concerning such matters, the situation should be dealt with under such ordinances.

### Assessment Statements.

Does a tax payer have to go to the assessor to give in his property or has the assesor to go to the tax payer to get his list? Has the tax payer a right to place the value of personal property. For instance, A has a team worth $500, B has a team worth $300, should B pay same tax as A does? If B should refuse to sign tax list what would be result?—A Subscriber.

All taxable property must be assessed at its full cash value according to law, but custom has superceded the letter of the law, and as every one knows, property is not assessed at its full cash value. The assessor must exact from each person a statement under oath setting forth specifically all the real and personal property owned by such person, or in his possession, or under his control, at 12 M on the first Monday in March; such statement shall be in writing, and in the form familiar to every tax payer. The assessor has power to require such statement to be verified by an affidavit, which should be done in all cases. If any person, after demand made by the assessor, neglects or refuses to give under oath the statement mentioned, the assessor must transmit, on or before the first day of July of each year, to the Board of Supervisors, a list of all persons who refuse or neglect to furnish a statement of their property; a statement of the assessment upon the property and the facts upon which the assessment has been based, and the valuation of the property, so assessed, ascertained. The assessor must make an estimate of the value of such property of such person, that estimate is transmitted to the Board of Supervisors. The Board of Supervisors should make a demand upon the party refusing to furnish statement as aforesaid, and require him to deliver his statement to the Board of Supervisors, and should he fail to do so, they must increase his assessment to such an amount as they shall deem just, such amount, however, shall not be less than that fixed by the assessor.

### Trees on Line.

There is a row of trees on the line between my ranch and the next one. I want to cut down the trees and my neighbor don't want to. Have I the right to cut down every other tree or do I have to leave them as they are? —J. H., Oxnard.

You have no right to cut any of them as they all belong to you and neighbor in common, and each has as much right in every other tree as in any tree in the row.

### Trades a Horse.

If a father buys a horse for his son who is 17 years of age, and the son trades the horse without the father's consent, does the trade stand good or can the father compel the other man to trade back, and would he have to pay the cost?—Subscriber.

The parent, as such, has no control over the property of the child. In order to control the property of

child (and in this particular instance, the horse mentioned) the parent should be appointed guardian of the estate of the child, and then no sale would be valid unless made by the guardian. The sale of the horse by the minor would be good if fairly made, there being no guardian.

### Planting Trees in Road.

I wish to set along my line-fence "which is on the county road line," some palms and eucalyptus trees. Now how far from my line-fence toward the center of the road will the law allow me to set the above named shrubbery.—A Fresno Co. Subscriber.

The County has an easement over the entire width of the county road for road purposes, and in the absence of a special privilege granted to you for that purpose, you have no right to place any trees or other obstructions in the road.

### Who Bears the Expense.

A street or road, runs between the land to be irrigated, necessitating a bridge across the street in order to bring the water on the land. Whose duty is it to build the bridge, which is used for the public, the land owner, or the water company?—F.

It is the duty of the one, who has control and management of the ditch, to build the bridge. It is impossible to say, from the facts furnished in the foregoing inquiry, whether it is the duty of the Water Company to deliver the water at the land of the owner, or whether the Water Company has fulfilled its obligation by delivering the water across the road or at some other point, therefore, it is impossible to answer the question, except in a general way as above. It might be the duty of the County, under certain circumstances, to build the bridge.

### Trees on Line.

Is there a state law against planting eucalyptus trees on the line? If a deed to property gives boundaries in feet and the fence encloses forty feet less on one side, does the fence or the boundary given in the deed prevail?—M. G., San Diego.

I know of no law preventing the planting of eucalyptus trees on the property line.

Monuments, when permanent and visible and inconsistent with the measurement, either of lines, angles or surfaces, are paramount, and the grantee would take in accordance with the monuments rather than the number of feet specified. If the fence was not mentioned in your description, and therefore, there is no inconsistency in the description, I know of no reason why you should not take in accordance with the description as given in feet.

### A FAMOUS HARNESS BLACKING.

The famous English harness blacking is made as follows: Three ounces of turpentine and two ounces of white wax are dissolved together over a slow fire. Then add one ounce of ivory black and one dram of indigo well pulverized and mix together. When the wax and turpentine are dissolved, add the ivory black and indigo and stir until solid. Apply thin. Wash afterward, and you will have a beautiful polish. This blacking keeps the harness soft and is excellent for harness and buggy tops.

Big reductions in freight rates on the Southern Pacific to all points west of El Paso will go into effect on Jan. 2.

**Plant Morse's Sweet Peas Now**

Our New Catalog Mailed Free

**C. C. MORSE & CO.**

Seeds - Plants - Trees

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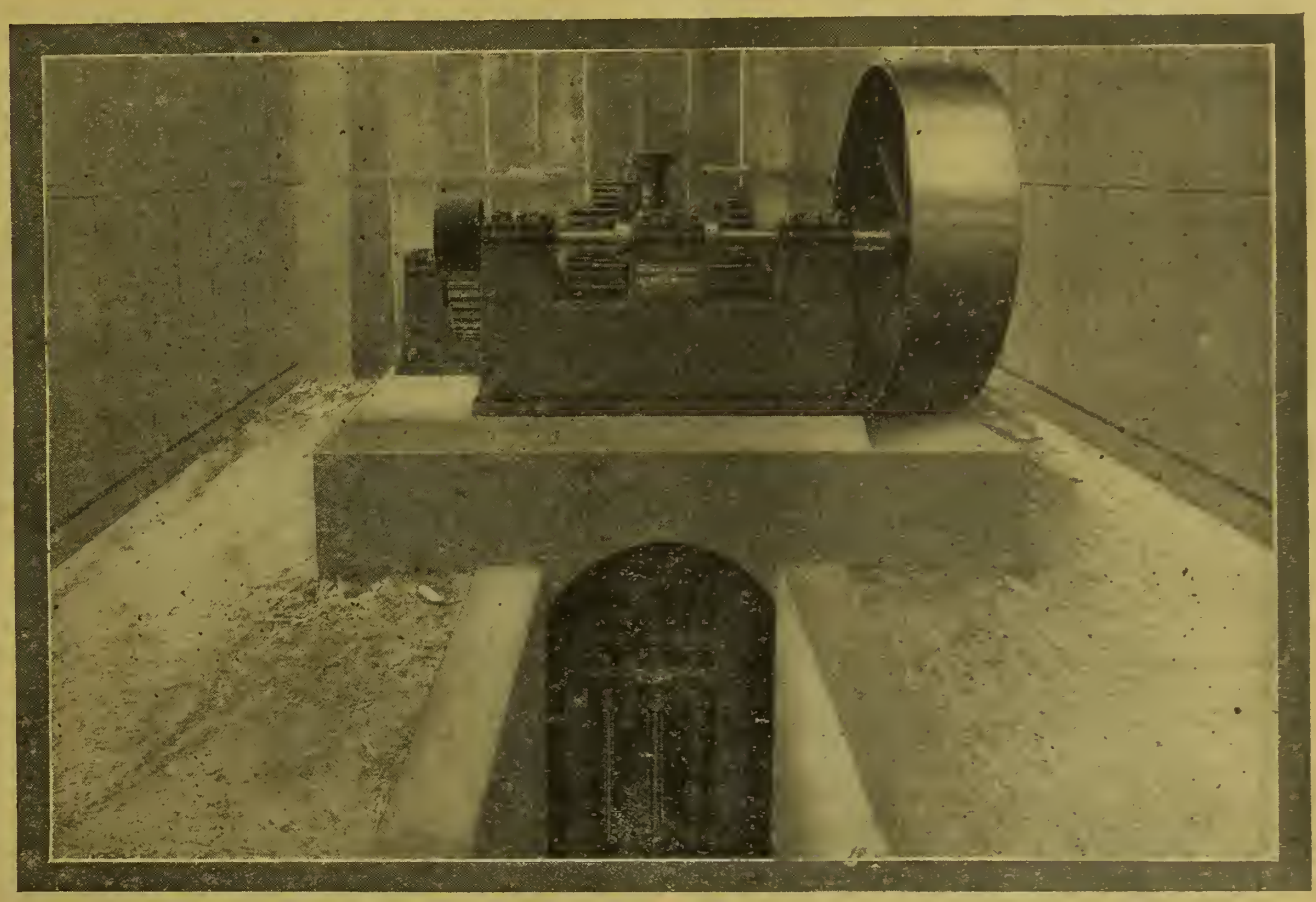
Here is Another Electric Driven

**AMES PUMP**

We make Pumps for every service where the source of supply is either a Bored or Dug Well and the lift is from 20 feet to 2000 feet to the surface.



With a lift of from nothing to 2000 feet above the surface through from no pipe to 20 miles of pipe above the surface, an Ames Pump will deliver a continuous stream from lower end of cylinder in well to point of discharge. Write for our catalog.

**A. T. Ames Manufacturing Co., Niles, California**

**AMERICAN SURFACE IRRIGATION PIPE**

***SAVES WATER, GRADING AND TIME***

The ***only*** way to ***Irrigate Alfalfa.*** ***Cheaper*** than ***Flumes.*** This is only ***one*** of our ***specialties.*** We make ***Riveted Water Pipe*** in lengths of ***ten feet*** from ***single sheets.*** Let us ***prove*** to you that we make ***Pipe*** and ***Tanks right.*** ***WRITE FOR CATALOGUE.***

***AMERICAN STEEL PIPE & TANK COMPANY***

FORMERLY TALLERDAY MANUFACTURING COMPANY

**349 Pacific Electric Building** **Los Angeles, California**


The Lemoore Canal and irrigation Co. has taken advantage of low water in the ditches to improve the system.

Kerman pear growers are forming a protective league to aid in subduing the pear blight.

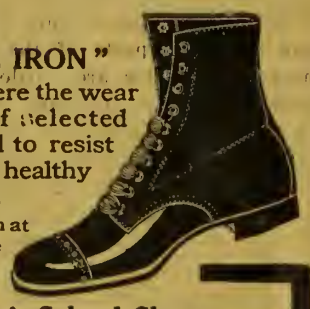
Imperial Valley hay growers are holding their stock hoping for better prices.

Mayer Special Merit SCHOOL SHOES

"WEAR LIKE IRON"

They wear best where the wear is hardest. Made of selected leather specially tanned to resist exactly the kind of wear a healthy boy or girl will give them.

Two layers of leather are sewed in at the tip instead of one, to prevent the toes kicking out. The soles are of extreme toughness.



Mayer Special Merit School Shoes

are made to fit a child's foot in a comfortable, natural way that will prevent foot trouble in later years, yet they are stylish and good looking. Only the genuine have the Mayer Trade Mark stamped on the sole.

FREE—If you will send us the name of a dealer who **does not** handle Special Merit School Shoes, we will send you, free, postpaid, a handsome picture, size 15x20, of George Washington.

We also make Honorbilt Shoes for men, Leading Lady Shoes, Martha Washington Comfort Shoes, Yerma Cushion Shoes and Work Shoes.

THEY WEAR LIKE IRON

F. MAYER BOOT & SHOE CO.
MILWAUKEE WISCONSIN

WESTERN BRANCH: Washington Shoe Mfg. Co.—Seattle.

"See the shadow the book throws across my waist? It's like the shadow caused by the metal burner or tank of your light—with this difference, I can take away the book and get direct, shadowless light. See the point?"

MORE LIGHT

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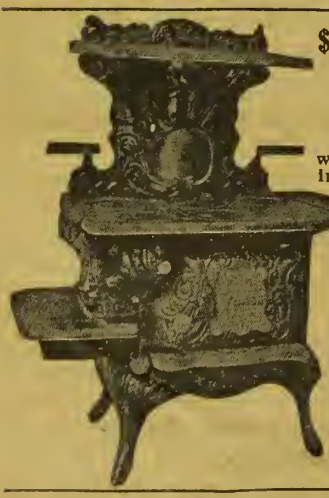

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# Household Department

## CALIFORNIA, MY OWN.

California, smiling ever,
With the sunshine on thy breast,
Is there elsewhere crest or valley
That could woo my heart to rest?
For thy shores and murmuring forests,
For thy plains in gardens sown,
For thy loveliness I keep thee,
California, my own!

Like a child in restive pastime,
I have wandered here and there.
Memory's hall is filled with pictures—
Treasures in a house of care—
Cedars, canons, hillsides blooming
To my wond'ring spirit shown.
What can rob me of thy wood paths,
California, my own!
Clearer than the sheen of jewels
Is the brightness of thy spring,
When among the orange blossoms
Tiny warblers flit and sing.
Oft I linger on thy beaches
When the summer days have flown
For thy winter's gentle weeping,
California, my own!

Dost thou love me, California?
Why these tender skies of blue?
Why the blessing of the west wind?
Why the March flowers wet with dew?
Why the golden poppy mantle
O'er the drowsy upland thrown?
Why the comforting of thrushes,
California, my own?

In the temples of the mountains
Came confession from my soul,
And the white-stoled falling waters
Have pronounced my spirit whole,
When my dust is 'neath thy grasses
And I pass to God's unknown,
I shall cherish thee forever,
California, my own!
—Lillian Hinman Shuey, in San Jose Times.

## THE KEY TO A MAN'S HEART.

A LITTLE old locksmith, who was also a genii, sat at his bench, working diligently, when the door opened and a breathless woman entered.

"I am about to take possession of a new dwelling—a man's heart," she explained. "Those who have lived in it before have carried off the keys. But you will be able to fit me out, will you not?"

"What kind of a place is it?" asked the accommodating little locksmith.

"A rather conventional house,, large and sunny and commodious," she replied. "There are no mysterious passages about it, and no blind doors. The locks ought to be easily fitted, although some of them have grown rusty from disuse, and a few of the doors have never even been opened."

"It is sometimes so with a house," commented he.

The woman nodded. "But I could never be happy living in a part of any house," said she. "I must occupy it completely."

The locksmith took down his great key-rings without answering.

"Now this," said he, holding out a key to her, "is the first you will need. It opens the outer door of the house into the vestibule of interest."

"Oh," she said, with a little laugh, "that is already open. I shall not need that key."

He gave her another to the wide central hall of confidence, and she took it, glad to get it, of course, but without great enthusiasm, and hung it on her girdle.

"And this is the key to the living room of comradeship," he went on "That, I suppose, is a large west-facing apartment, with plenty of windows and a good fireplace. It is usually the most cheerful and the most comfortable room in a house."

"Perhaps," said the woman. "I shall sit there a great deal, I am sure," and she slipped the key carefully in place.

The locksmith selected another from one of the rings.

"This fits the lock on the door of the room of constancy," said he.

"I'm afraid that room has been rather neglected," she said, with a charming little grimace, "but I shall look after it at once."

The locksmith's eyelid flickered at the way the red bow of her lips straightened into a thin line.

Then he gave her other keys, little and big, naming them as he gave them, and she hung them one by one upon her girdle.

"But," said she, when he would have put the key rings away at last, "you have given me none for the unused rooms of which I told you."

He hesitated, fingered the keys on a small ring which he had not yet touched. "You are certain you wish them?" he asked.

"Above all the others!"

"Oh, very well," said he, and dropped into her palm two slender keys of beaten gold.

"Now, said she triumphantly, with a sigh of relief, "I shall go where I please!"

And she went away, her girdle weighted with the keys as the stomacher of Cleopatra with its jeweles.

Days afters she came back, so radiant that her beauty made the eyes of the little old locksmith blink as they always did when the sun, catching them wide open, would flash his smile straight into them.

"Well?" interrogated he of her.

"They fit!" she cried. "Every key turns its lock like magic! It is quite wonderful, is it not?"

"By no means," he repied. "You are a very clever woman and I am a locksmith and genii. Between us we should be able to accompish most things."

The woman's answering smile was vague. "There is—something else," said she. "I need still another key."

"Bless me! What key is that "

A shade of annoyance lay over her lifted eyes like the dapple of shadow over a pool.

"There is a little closed room in the rear of the house that I did not notice just at first," said she. "It is a dark inner room, but I must get in."

"Do you need it?" asked he. "Are there not enough rooms without it?"

"It is not that I need it," she answered, "but that it mocks me with its closed door. I have looked in at the keyhole and can see nothing but dust and shadows and cobwebs. But I am sure there is something else there."

"The room of the past," murmured he. "Yes," she nodded, "and I must turn the lock.

"Why he asked. "Why must you?"

She flushed, and her eyes fell. Then she lifted them defiantly.

"It is my house, is it not? Besides, it needs air and light."

The wise little locksmith smiled

curiously; and the woman's color deepened beneath the smile.

"It is not curiosity that urges me," she flamed, as if he had accused her. "The whole house has need of my care."

He shook his head.

"Leave the room closed," said he.

But she held out her hand peremptorily.

"Give me the key for it," she commanded.

"There is none in the shop that will fit that lock."

"Make one, then."

"I could not if I would."

"What shall I do?" she cried.

"The man has a key. Ask him for it, if you must."

She smiled at him in quivering disdain.

"Surely there must be a duplicate somewhere," she urged.

"There is none," said he.

She stared at him in amazement.

"You mean that you can not help me to get in there?" she demanded.

The locksmith made her his profoundest curtesy.

"Madam," said he, "there are things which even you and I can not do with all our cleverness and skill."—Smart Set.

A MOUNTAIN STREAM.

### TRIED RECIPES.

The following recipes have been sent to the Cultivator's household department by Mrs. G. A. Swann of Imperial. They certainly look good and will be appreciated by Cultivator readers.

**Prince of Wales Layer Cake.**

Butter size of an egg, 1 cup brown sugar, 2 tablespoons molasses, 2 eggs (1 will do), ½ cup sour milk, 1 teaspoon cinnamon, a little nutmeg, 1 cup raisins brought to boil and taken out of water and floured. Spread cake with icing of any sort.

**Mocha Icing.**

One heaping cup pulverized sugar, ¼ cup butter, 2 heaping teaspoons cocoa, 1 teaspoon vanilla. Rub well and add enough strong coffee—about 2 teaspoons—to make the right consistency. Do not cook.

For the sake of economy in eggs just now I find that I can use corn starch to partly take their place. For instance I make a salad dressing as follows:

**Salad Dressing.**

One tablespoon butter, 2 tablespons sugar, ½ tablespoon mustard, ½ cup vinegar, ½ cup water (boiling), 1½ tablespoons corn starch, 1 egg. Mix together all ingredients, but egg and water. Then gradually add boiling water and last the beaten egg. The addition of thick cream sweet or sour improves it.

To make a very large custard pie, if one dessert spoon of corn starch is added, one egg will be sufficient. Cakes in shape of sweet biscuits may be made without eggs, using 4 cups flour, 2 cups or less of sugar, 1½ cup sweet soft dripping, currants to taste, or seedless raisins. Cut in small biscuit shape and bake.

### SELECTION AND PREPARATION OF MEAT.

Probably no part of the daily expenditure for food requires as much thought as the purchase of meat, for meat is expensive, and the difference in price of the different cuts is not always a guide to the difference in food values. Every housekeeper should make a careful study of a good meat chart and learn the location of the various cuts.

Meat is the name applied to the flesh of all animals used for food.

Beef is the meat of the steer or cow, and is the most largely consumed of all animal foods.

Veal is the meat obtained from the young calf. Veal should be thoroughly cooked. It is deficient in fat and has not much flavor; therefore, it is advisable to season it well and to add salt pork while cooking. Good veal is pink in color and has white fat.

Beef is digested easily, and a healthy stomach will digest it without any trouble.

Meat is comprised of fat, mineral matter, water, and protein. There is about four times as much protein in a pound of meat as there is in a pound of milk. The color of meat comes from the matter which is found in the red corpuscles of the blood.

The most expensive cuts of meat come from the parts of the animal where the muscles are little used. These cuts are tender, fine grained and of a good flavor. On the other hand, those parts much used produce tougher cuts, but they are often very juicy and of fine flavor if properly cooked. The tough meat forms more than half the animal, but is just as nutritious as tender meat. While, in many cases, the tender cuts are desirable and preferable for people who have a large income, the cheaper cuts may be used to better advantage if well cooked.

At the Colorado Agricultural College, the students are shown how to cook a cheap piece of meat so that it is nutritious, palatable and attractive enough to put on the rich man's table.—MARY F. RAUSH, Colorado Agricultural College.

### TREATING SWEATER NECKS.

If the neck of a sweater becomes stretched too wide from wearing, do not sew up or cut out any of it; simply dip neck part in clear warm water, wring out lightly, and hang up to dry. The neck will, when dry, have resumed its original shape and size.—Woman's Home Companion for December.

### LIKE FATHER, LIKE SON.

"Does your son profit by your example?"

"Thunder, no! Why, he wants to get married!"—New York Herald.

### HE KNEW.

"Dad, what sort of a bureau is a matrimonial bureau?"

"Oh, a bureau that has five drawers full of women's fixings and one man's tie in it."—Houston Post.

### PROMPT ACTION.

Anxious Friend—Gayman, you ought to do something for that uncontrollable thirst of yours, and you ought to do it quick.

Gayman (putting on his hat)—I'm ready to go and join you in one right now, old chap.—Chicago Tribune.

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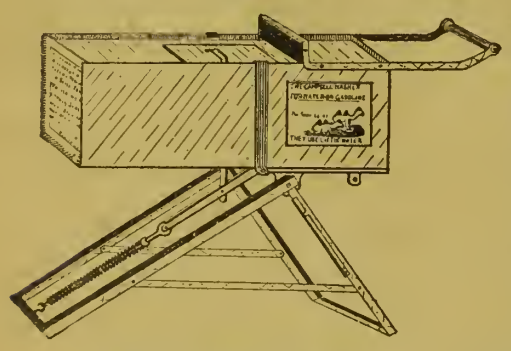

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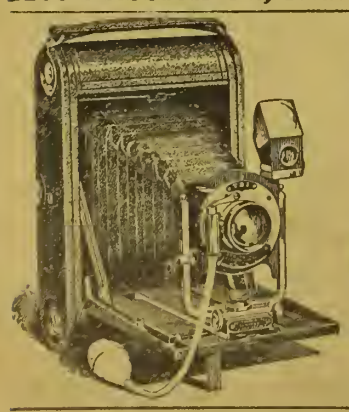

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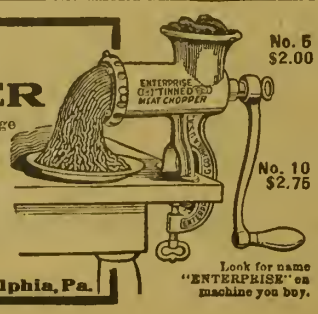


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### BEDROOM DECORATION.

To one who loves neatness and order and daintiness, bedroom decoration is as important as parlor decoration. In the bedroom there should be few ornaments and little furniture. There should be no carpet to make a dust when swept and to catch germs and make frequent moppings impossible. Of course an oiled hardwood is best and most easily cared for; but where one cannot afford that, a painted softwood floor or an oilcloth, or even a bare softwood floor is better than a carpet. There may be a few rugs. If one cannot afford better, bright colored rag rugs are nice. They may be braided, crocheted, woven or drawn.

For curtains, dotted curtain muslin is nice. The curtains may be made pretty by being ruffled, or plain and hemstitched with hems three-fourths or one inch wide. Such curtains are easily laundered and do not shut out much light.

The bedrooms should be as light as possible. Germs love dark places, and the bedroom window should be open all night and all the year 'round. In winter, quite a narrow opening may suffice, but unless you wish to poison yourself, have headaches, etc., do not sleep with windows closed. Sleep in a close room does one very little good. And remember, cold air is not necessarily pure air.

But to return to my subject. The bed should not be placed with its side against the wall so one must sleep with one's head in a corner. If the bed is out from the wall one gets more air and finds the bed easier to make.

People should not have too many covers on the bed. It seems to sap one's strength, especially when warm weather is coming in the spring. Some have quilts outside. Is it not best to have a washable cover? If one cannot have bedspreads, some other cheap, thin, washable cover should be used. It is not easy to launder quilts, and if you wish to sit on the bed, do not turn the spread back. Its use is to keep the heavier covers clean.

Iron bedsteads are neatest and look best, but we farmer folks often have to content ourselves for the present with what we have. Any bedstead that can be kept clean and can be moved around will do. For bureau scarfs, splashers, etc., shrunk cotton (at about 12½ or 15 cents a yard) double-hemstitched is neat and pretty, or, a nice washstand cover may be made of any rather thin white cotton with a ruffle around the edges, the whole thing, ruffle and all, to just cover the stand. A plain cover should be longer and have quite long ends to hang over the edge.

There should be no useless ornaments to catch the dust. The few pictures should be restful and homelike. A girl should avoid lumbering the room with fancy pin-cushions and all sorts of little trifles that some girls like. On the toilet table, commode or whatever one has beside the washstand, the only necessary things would be a hairpin holder; a pin cushion, or pin tray; comb-and-brush box, and perhaps a handkerchief box. One could have a hair receiver (for combings) hung over it and a match safe. These things will make it easy to always have the room tidy. It is well to have a little laundry bag hung in an inconspicuous place.

The walls are best painted so they may be easily washed. If this is not possible, calcimining in some nice color makes them pretty and is cheap. If paper is used (and this is not so sanitary), do not have large or intricate figures. The plainer the better. Before choosing the paper, think what color you would most desire to have for a long time. Pink, red, or blue are the colors least desirable, probably.

Almost any shade of brown, green or gold figures are prettier.

For a girl's room a shirt-waist box is very handy and makes an excellent seat. With these things and a few chairs, a bedroom has all it needs, and its chief beauty should lie in its neatness and order. To be best, one's room should be as plain, fresh, light, and airy as a hospital. So it is restful and very easy to care for.—Farm, Stock and Home.

### HANDKERCHIEFS FOR CHILDREN

In this day of cheap handerchiefs, and cheaper material for making them, any mother can supply her children with plenty of nice handkerchiefs, and a lot of them can be made from parts of wornout summer dresses and from scraps of any old or new thin, soft material. One mother bought some remnants of cheap figured lawn and put them in strong suds and boiled the color out, then they were cut in squares of the desired size and hemmed on the machine.

Give every child a handkerchief box where they can find a clean one every day, for there is no better way to teach children to be dainty and neat than by teaching them to take care of their small belongings, and they should be taught that a soiled handkerchief should never be paraded in public.

If one of the children is suffering with a cold in the head, his handkerchiefs should be kept to themselves and great care taken in their cleansing, for a cold should be treated as a distinct though of course a mildly, contagious disease. A good way to clean the hadnkerchiefs without hard rubbing and to disinfect them is to pour warm water over them and let them stand for an hour, then pour off this water and place them under water in which a tablespoon of coal oil has been stirred and let them remain over night. The oil tends to whiten them and will not injure the fabric in the least and then it removes all stains. In the morning prepare warm suds by stirring enough pearline in the water, then put in the handkerchiefs, let them stand awhile and they are ready to be washed and rinsed.

Nice handkerchiefs washed in this way will come out as white as new ones, but this treatment is especially good for the very soiled articles, and they don't need to be boiled if they are put in a basin after washing and rinsing and boiling hot water poured over them. When the children have very bad colds, give them small pieces of old soft cloth to use as handkerchiefs, and burn these after using, as this may prevent the spread of the disease among the children.—A. M. H.

"For every evil under the sun,
There's a remedy or there's none,
If there be one, try to find it,
If there is none, never mind it."

# General Agriculture

## THOUGHTS ON DIVERSIFIED FARMING IN TULARE COUNTY.

**Address By Thos. Jacobs of Visalia at Dinuba Farmers' Institute.**

TULARE COUNTY has almost abandoned the special lines of farming so common only a few years ago. Then the country was devoted to grain and stock. Immense grain fields stretched for many miles along the eastern foothills and well out into the plains. These were surrounded by or included in immense cattle ranges. Wheat and barley, together with stock consisting of cattle, sheep and horses were about all that could be found here, but later diversified farming began to take the place of the specialties that had been thought by many to be the only things that Tulare county could produce in commercial quantities.

Settlers from other parts of the State and country began to come into the county and to these largely is due the change that has taken place.

Fruit growing in all its branches yields wonderful results. Vegetables of almost every kind do well. Dairying and poultry raising came in for a fair share of attention until today the county, instead of being given over to the jack rabbit, coyote and cattle, is the veritable land of promise. The promise of milk and wine and honey is more than fulfilled for these are only a small part of the new order of things.

Nearly every tree and plant, fruit or vine of the temperate and semi-tropical zones is now found growing to perfection on some of the many farms of the county. Thinking men and women have also taken hold of the stock industry and instead of the long horned cattle and shaggy mustang, we see that queen of the dairy, the sleek little Jersey. The noble Shorthorn, the heavy white headed Hereford and the blocky Polled Angus, all money makers in their class, while the Percherons, Shires, Coach and other breeds of the horse have almost supplanted the rough little mustang.

Sheep and swine have not been forgotten and today we can point with pride to many herds that challenge the admiration of the older settled sections of the country. Poultry is another important item in the present system.

Instead of the old time ranch house usually a mere shack, and its nearby corral and sheds, where the old time specialist thought his land was doing pretty well if it produced enough to supply the absolute needs of the family and himself, now as a result of diversified farming, we have the cozy cottage or more pretentious home surrounded with shade trees, vines and flowers, supplied with all the necessities and many of the luxuries. A few acres in many cases bring in far better returns than did the big ranch when devoted to grain and stock.

Last year at the Exeter Citrus Fair the Dinuba district made an exhibit of the products of the soil comprising about everything under the sun. What can be accomplished in the Dinuba district can be done in other parts of the county just as well.

The changed conditions call for more thought, perhaps more work, on the part of the farmer, but the results justify it. In the days gone by when the stockman and grain rancher occupied the country, there was a demand for labor only during the seed and harvest, the rest of the time the country was almost deserted. Under the present system of farming there is an almost continuous seed time and harvest and as a result there is a constant demand for labor. With the change in farming have come big changes in the economic and social condition. The great ranches have been subdivided and in place of one family (that were seldom at home on the farm) together with a few cow punchers and mule drivers, we now have many families permanently located, surrounded with good schools, churches, and other requirements of modern society.

The Farmers Institutes, the Grange agricultural societies and clubs, all help to draw the farmers closer together for an exchange of ideas and instruction. Here they can compare notes on the many points of interest that are constantly coming up, such as soils, water, drainage, fertilizers, etc.

To sum up: In the short space of 25 or 30 years Tulare county has demonstrated that it is not only adapted to stock and grain, but that we can raise as good as or better potatoes than Ireland, raisins as good as Spain, prunes as France, and oranges as the world, and nearly all kinds of vegetables and small fruit equal to the best, and the end is not yet. Mr. Luther Burbank is credited with the claim that not over one per cent of the natural resources of the country has ever been developed. If this applies to Tulare county, what may we not expect of its future development.

To every farmer man or woman I would say attend the Farmers Institutes, join the Grange, become an active worker mentally and socially as well as physicially to the end that we may all do our part towards making Tulare county the peer of, if not the model farming county of the state.

---

Redlands horticulturists received new points on treatment of gum diseases at a lecture last week by J. A. Lehman, a graduate of the Agricultural University of Belgium. Mr. Lehman is doing practical orchard work in treating citrus trees in San Bernardino county.


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# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Dec. 15, 1909.

### Butter.

Butter stands at last week's quotations and the market is now very firm.

Produce Exchange wholesale quotations are as follows with actual selling prices to the trade 2½ advance on Extras.

| | |
|---|---|
| Creamery per roll | 67½@75 |
| Eastern Creamery per roll | 67½ |
| Cooking | 26 |
| Ladles | 26@27 |

### Cheese.

| | |
|---|---|
| Northern fresh | 21 |
| Domestic Swiss | 23 |
| Imported Swiss | 32 |

### Eggs and Poultry.

Eggs are a shade lower than last week, case counts standing two cents lower and extras fluctuating from 50 to 52.

Paying price f. o. b. L. A. is:

| | |
|---|---|
| Local candied | 50@52 |
| Case count buying price | 46 |
| Eastern fresh | 35 |
| Storage | 26@28 |

Dealers pay for live poultry f. o. b. L. A.

| | |
|---|---|
| Hens per pound | 18@19 |
| Roosters | 9@18 |
| Roasters 3 lbs. and up | 18@19 |
| Spring chickens | 18@20 |
| Turkeys | 20@24 |
| Geese | 10@12 |
| Ducks | 10@12 |
| Squabs | 1.25@1.75 |

### Live Stock.

The following quotations are f. o. b., Los Angeles on all stock.

| | |
|---|---|
| Hogs from 175 to 200 pounds | 7¾ |
| Prime Steers | 4¾ |
| Heifers | 3½@4¼ |
| Calves per pound | 5 |
| Sheep ewes per head | 3.75@4.00 |
| Lambs per head | 3.75@4.00 |
| Wethers | 4.50@5.00 |

### Potatoes.

Wholesale prices are:

| | |
|---|---|
| Yellow Sweets per ctl | 1.75 |
| Burbank local | 85@1.00 |
| Highlands | 1.10@1.25 |
| Salinas | 1.50@1.65 |
| Watsonville | 1.50@1.65 |
| Oregons | 1.40@1.50 |

### Onions.

Wholesale quotations:

| | |
|---|---|
| Australian Browns per sack | 1.75 |
| Garlic | 8@10 |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Artichokes locals | 1.10@1.25 |
| Beets, sk | 80 |
| Beans, string | 10 |
| Brussels sprouts per lb. | 8@9 |
| Bell peppers | 6@8 |
| Cabbage, per sack | 1.10@1.25 |
| Celery per doz | 50@60 |
| Cucumbers, per box | 1.00 |
| Cauliflower per doz | 40@60 |
| Carrots per sk | 80 |
| Egg plant per lb. | 5@8 |
| Green onions per doz bunches | 25 |
| Hubbard squash | 1@1¼ |
| Lettuce choice per crate | 1.25@1.50 |
| Leeks | 35 |
| Oyster plant | 35@40 |
| Summer Squash, lug | 75 |
| Okra per lb. | 8@10 |
| Peas, per lb. | 8@10 |
| Parsley, per dozen bunches | 15@25 |
| Pumpkins per lb. | 1½ |
| Parsnips | 40 |
| Radishes per doz. | 20@25 |
| Rhubarb, crimson winter | 1.00 |
| Spinach per doz | 17½ |
| Turnips sk | 80 |
| Tomatoes lugs | 1.00@1.25 |

### Citrus Fruits.

| | |
|---|---|
| Navels | 2.25@2.75 |
| Grapefruit | 2.50@3.50 |
| Lemons | 2.25@3.50 |

### Fresh Fruits.

Wholesale prices on the market are:

| | |
|---|---|
| Bellefleurs | 1.35@1.65 |
| Winesaps California | 1.25@1.75 |
| Permains Red | 1.20@1.50 |
| Jonathans | 3.00 |
| Cider | 1.25@1.50 |
| Casabas per crate | 1.70 |
| Cantaloupes Jumbos | 2.50@3.00 |
| Christmas melons | 2.00 |
| Figs | 1.25@1.50 |
| Grapes lug box | 1.25@1.50 |
| Persimmons lb. | 6@8 |
| Pomegranates per lb. | 5 |
| Peaches per box | 1.00@1.25 |
| Winter Nellis | 2.25 |
| Quinces per bx. | 1.25 |
| Quinces per lb. | 1½ |
| Raspberries | 10 |
| Blackberries | 10@11 |
| Strawberries | 8@10 |

### Dried Fruits.

Wholesale prices are:

| | |
|---|---|
| Apricots | 12@15 |
| Evap apples fy per lb | 10@11 |
| Figs box | 1.25 |
| Peaches | 7@8 |
| Pears | 11@12 |
| Plums pitted | 12½ |
| Nectarines | 9@10 |
| Prunes | 4½@10 |

### Beans Dried.

Wholesale quotations:

| | |
|---|---|
| Limas per ctl | 4.40@4.50 |
| Pink No. 1 | 4.40@4.50 |
| Black eyes | 4.75 |
| Lady Washington | 4.25@4.50 |
| Small white | 540@5.50 |
| Garvanzas | 4.50. |
| Lentils | 7.00 |

### Nuts.

Wholesale quotations are:

| | |
|---|---|
| No. 1 soft shell walnuts | 13½@14 |
| No. 1 hard shell | 11 |
| No. 2 soft shell | 10 |
| Walnuts, budded | 18@20 |
| Almonds, IXL per lb. | 15@17 |
| Pecans polished | 12½@17 |
| Peanuts, Eastern | 7 |
| Peanuts, Cal | 5@5½ |

### Honey.

Wholesale quotations:

| | |
|---|---|
| Extracted water white | 7@7½ |
| Extracted light amber | 6@6½ |
| Comb Water White | 18 |
| Comb, white | 15 |
| Beeswax | 25 |

### Hay.

Buying prices f. o. b. cars L. A. are:

| | |
|---|---|
| Barley Hay | 10.00@14.50 |
| Alfalfa, local | 12.50@14.00 |
| Alfalfa Imperial | 11.00@12.50 |
| Northern | 12.00@13.50 |
| Wheat hay | 11.00@14.00 |
| Tame oat | 11.00@15.50 |

### Grain.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Wheat, new, per ctl | 2.15@2.20 |
| Kaffir corn | 1.85 |
| Corn | 1.80 |
| Egyptian corn | 1.85 |
| White oats | 1.85 |
| Seed Rye | 2.10 |
| Seed Barley | 1.70 |

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:

| | |
|---|---|
| Cracked corn | 1.80 |
| Cracked wheat | 1.85 |
| Shorts | 1.85 |
| Bran | 1.60 |
| Cocoanut cake | 1.35 |
| Cocoanut meal | 1.85 |
| Cottonseed meal | 1.25 |
| Oil cake meal | 1.85 |
| Feed meal | 1.90 |
| Cracked wheat | 2.10 |
| Rolled Barley | 1.65 |

## San Francisco Markets

SAN FRANCISCO, Dec. 14, 1909.

### Butter.

Butter stands as last week except that extras have weakened slightly and are now quoted at a half point lower.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

| | |
|---|---|
| California extras per lb. | 35½ |
| California Firsts | 31 |
| California seconds | 29 |
| Storage extras | 30 |
| Ladles | 25½ |

### Cheese.

| | |
|---|---|
| California flats new | 16½@18½ |
| Cal. Young America fy new | 17@19 |
| Young American Oregon fy | 18½ |

### Eggs and Poultry.

Eggs declined sharply and recovered on Monday somewhat, but stand at this writing at one point under last week.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

| | |
|---|---|
| Fresh ranch extras | 54 |
| Firsts | 47 |
| Storage extras | 30 |
| Hens per doz | 5.00@9.00 |
| Roosters per doz | 4.00@8.00 |
| Fryers per doz | 5.50@6.00 |
| Turkeys | 20@22 |
| Geese per pair | 2.00@2.50 |
| Ducks | 5.00@9.00 |
| Pigeons young | 1.00@3.50 |

### Live Stock.

San Francisco prices gross weight:

| | |
|---|---|
| Steers | 3½@4½ |
| Cows and heifers | 2@3½ |
| Hogs | 4½@7¾ |
| Calves per lb | 4@5½ |
| Milk Lambs | 6@6¼ |
| Wethers No. 1 | 5¼@5½ |
| Ewes No. 1 | 4½@4¾ |

### Potatoes.

Wholesale market quotations:

| | |
|---|---|
| River White crates | 75@90 |
| River Whites, extras | 90@1.00 |
| Salinas | 1.15@1.40 |
| Oregons | 1.00@1.15 |
| Sweet crates | 1.60@1.75 |

### Vegetables.

Wholesale quotations:

| | |
|---|---|
| Cucumbers hot house per doz | 1.00@1.25 |
| Celery doz | 40@1.50 |
| Chili peppers per lb. | 4@6 |
| Egg plant per lb. | 4@6 |
| Green peas per lb. | 12½@15 |
| Mushrooms per lb. | 10@20 |
| Okra | 75@90 |
| Winter Rhubarb per lb. | 4@6 |
| String beans | 12½@15 |
| Summer squash | 1.00@1.25 |
| Tomatoes bay | 1.25@1.75 |
| Tomatoes southern | 75@1.25 |
| Wax beans | 12½@15 |
| Lima beans | 7@8 |
| Garlic | 4½@5 |

### Onions.

| | |
|---|---|
| Yellow onions | 90@1.10 |

### Citrus Fruits.

| | |
|---|---|
| New Navels | 1.75@2.75 |
| Tangerines | 75@2.00 |
| Grapefruit | 1.00@3.00 |
| Lemons | 1.25@4.50 |
| Limes | 4.00@5.00 |

### Fresh Fruits.

| | |
|---|---|
| Bellflowers | 1.00@1.25 |
| Newtowns | 1.25@1.75 |
| Figs blk box | 50@75 |
| Pomegranates | 50@1.50 |
| Pears Winter Nells | 1.00@1.75 |
| Pears, cooking, box | 75@1.00 |
| Persimmons | 75@1.25 |
| Quinces | 50@75 |
| Huckleberries per lb. | 8@10 |
| Strawberries, chest | 12.00 |

### Dried Fruits.

| | |
|---|---|
| Santa Clara prunes | 2⅜@3 |

1 cent premium for larger sizes.

| | |
|---|---|
| Apricots per lb. Royal | 10½@12½ |
| Peaches | 5½@7½ |
| Apples evap | 8@9 |
| Pears | 6@9¼ |
| Figs | 3¼@5 |
| Nectarines | 5@6 |
| Plums | 7@8 |

### Raisins.

RAISINS—1909 crop, f. o. b.: Fancy Seeded, 16-oz. cartons, 5@5¼c; do, 12-oz, 4½c; do. choice, 16-oz., 4½@4¾c; choice, 12-oz., 4c; 50-lb. bxs. Loose Muscatels, Standard, 4-crown, 4@4¼c; 3-crown, 3¼@3½c; 2-crown, 2½@3c; Seedless Thampson, unbleached, 3c; do. bleached, 7@7½c; Sultanas, unbleached, 2¼c; do, bleached, 4@4½c; Muscatels, unbleached, 2¼c; Dried Grapes, nominal; London Layers, clusters, 2-crown, 85@90c; 3-crown, 90@$1; 4-crown, $1.30@1.50; 5-crown, $1.75@2; 6-crown, $2@2.50.

### Nuts.

| | |
|---|---|
| Walnuts soft shell No. 1 | 13@13½ |
| Walnuts S. S. No. 2 | 8@8½ |
| Walnuts, hard shell | 13 |
| Almonds '09 N. P. U | 13 |
| Almonds '09 nonp | 14½ |
| Almonds I X L | 14 |
| Pecans | 15@17 |
| Chestnuts | 14@15 |
| Peanuts | 5@6 |

### Beans Dried.

| | |
|---|---|
| Limas | 4.20@4.25 |
| Pink | 3.70@3.75 |
| Black eyes | 4.05 |
| Small white | 4.75@4.90 |
| Large white | 3.40@3.50 |
| Red Kidneys | 5.10 |
| Garvanzas | 3.00@3.25 |
| Bayo | 5.15@5.25 |
| Horse beans | 2.10@2.25 |
| Cranberry | 4.60 |

### Hops.

| | |
|---|---|
| Hops 1909 crop | 20@23 |
| Hops 1908 crop | 17@20 |
| Old | 10@13 |

### Honey.

| | |
|---|---|
| White comb | 14@15 |
| Light Amber | 10@12 |
| Extracted W W | 7½ |
| Extracted light amber | 6½@7 |
| Beeswax per lb. | 25@29 |

### Hay.

| | |
|---|---|
| Choice wheat hay | 17.00@18.00 |
| No. 1 wheat or wheat & oat | 15.50@16.50 |
| No. 2 Wheat or wheat and oat | 13.00@14.00 |
| Choice tame oat | 15.00@16.50 |
| Other tame oats | 12.00@14.00 |
| New Crop wild | 9.00@13.00 |
| Stock hay | 7.00@8.00 |
| Alfalfa | 9.00@12.00 |
| Straw | 55@65 |

### Grain.

| | |
|---|---|
| Wheat No. 1 | 1.90@2.00 |
| Barley No. 1 | 1.45@1.50 |
| Oats white | 1.67½@1.75 |
| Oats gray | 1.67½@1.72½ |
| Rye new crop | 1.85@2.00 |
| Cal sm round corn | 1.70@1.75 |
| Alfalfa seed | 16@18 |
| Mustard brown | 3¾@4½ |
| Millet | 2½@3 |
| Flaxseed | 4 |
| Broom corn seed per ton | 23.50 |

### Feed Stuff.

| | |
|---|---|
| Bran per ton | 29.00@30.00 |
| Feed cornmeal per ton | 37.00@38.00 |
| Cracked corn per ton | 38.00@39.00 |
| Ground barley per ton | 32.00@33.50 |
| Rolled oats per ton | 33.50@35.00 |
| Oil cake per ton | 38.50@40.00 |
| Cocoanut cake per ton | 25.00 |
| Middlings | 36.00@37.50 |
| Mixed feed per ton | 28.00@33.00 |
| Shorts | 31.50@33.00 |

## Citrus Market

LOS ANGELES, Dec. 15, 1909.

Probably over eighty per cent of the fruit of Tulare county and Butte county has been forwarded. It is being received exceptionally well in all the eastern markets. The only objection which has been raised to it since it has become fully ripened has been as to its size. It is running exceptionally large sizes all over the state. But few of Southern California houses have opened and will not open until after the first of January.

Lemon shipments are very light but prices are exceptional. Market very strong with every promise that it will remain so.

**Shipments.**

Total shipments of citrus fruit from Southern California points to date aggregate 894 cars, of which 516 were oranges and 378 lemons. To same date last year 1116 cars, of which 631 were oranges and 485 lemons. Tulare county and vicinity shipped to date this season 1750 cars, all oranges. No definite report received from Butte county, but less than twenty per cent of its fruit remains on the tree.

---

CINCINNATI, Dec. 10.—Cold; market is weak. Ten cars oranges sold. Florida Brights 1.35@1.80; Russets 1.35 @ 1.70.

---

PITTSBURG, Dec. 10.—Two cars sold; prices low on navels on account condition; market strong on lemons. Six cars Florida oranges sold, average $1.55. Market steady on Floridas; cold.

| LEMONS— | Avge |
|---|---|
| Lemoncove, TCC Ex, Lemoncove | $4.10 |
| Justasgood | 3.95 |

---

BOSTON, Dec. 10.—Four cars sold; weather cold; market doing better on oranges; very strong on lemons.

| LEMONS— | Avge. |
|---|---|
| Pet, S A Ex, | $4.80 |
| Greyhound | $4.30 |
| Protection, Fy, Ohio Lemon Co. | $4.50 |
| Clubhouse | $4.15 |
| NAVELS— | Avge. |
| Blue Labels, X F | $2.55 |
| Mariposa Fy, Cal. Cit. Union | $2.30 |

---

ST. LOUIS, Dec. 10.—Colder; market advancing. Nine cars sold. Floridas, $1.60 to $2.25.

| NAVELS— | Avge. |
|---|---|
| Bear and Eagle, TCC, Lindsay | $2.10 |
| Mt. Whitney, TCC Ex. Porterville | $2.35 |
| Rainbow | $2.15 |

---

PHILADELPHIA, Dec. 10.—Market steady; weather cold; 6500 boxes Floridas sold, $1.40 to $3.20; average $1.75; 7000 boxes grapefruit, $1.95 average. Tangerines $1.60.

---

CLEVELAND, Dec. 10.—One car navel oranges and one car lemons sold. Market higher, both navels and lemons; cold; snowing.

| LEMONS— | Avge. |
|---|---|
| St. Leffingwell, XXX brand, | $4.45 |
| EEE brand | $4.35 |
| NAVELS— | Avge. |
| Tulip, T T C Ex, Porterville | $2.70 |
| Oakleaf | $2.40 |
| Seedless brand | $2.35 |

---

NEW YORK CITY, Dec. 10.—No sale of California citrus fruit here today.

NEW YORK, Dec. 13.—One car valencias, one car lemons and five cars navels sold. Market very steady on valencias with an upward tendency. Lemons strong and active. Navels active and advancing on well-colored but pale, unmatured stock moving sluggishly. Cloudy, snow in the morning, rain at noon.

| VALENCIAS— | Avge. |
|---|---|
| Old Mission, Fy Chapman | $6.95 |
| Old Mission, Ch Chapman | 5.85 |
| Golden Eagle, Sd Chapman | 4.00 |
| NAVELS— | Avge. |
| Bowen | $3.10 |
| Vista Robles, Or Hammond Orch. | 2.10 |

| | |
|---|---|
| Mariposa, Fy, CCU | 2.85 |
| HM Brand, Xc, CCU | 2.25 |
| Elly Tyler, B Banner C | 2.60 |
| Letter T | 2.15 |
| Elly Tyler, Hiawatha C | 2.25 |
| Letter T | 2.00 |
| LEMONS— | Avge. |
| Trail, ST Ex | $4.90 |
| Canon | 4.30 |

ST. LOUIS, Dec. 13.—Cold. Market weak on large sizes. Ten cars sold, including eight cars Floridas, which sold from $1.60 to $2.25.

| | |
|---|---|
| NAVELS— | Avge. |
| Zebra, TCC Ex, Lindsay | $2.25 |
| LEMONS— | Avge. |
| A1, Azusa, ACG, Ex, Azusa | $4.70 |
| Red Shield | 4.65 |
| Green Crown | 4.35 |

CINCINNATI, Dec. 13.—Cold, raining. Market steady on oranges, very strong on lemons. Eleven cars oranges and one car lemons sold. Florida Brights and Russets both $1.50@1.90.

| | |
|---|---|
| LEMONS— | Avge. |
| Pet, SA, Ex, | $5.00 |
| Arab | 4.80 |
| Greyhound | 4.60 |
| Duck | 4.15 |

PITTSBURG, Dec. 13.—Two cars sold. Market firm on good stock. Fair demand for navels. Very strong on lemons. Raining. Ten cars Florida oranges sold, average $1.60.

but result in a great growth to the city.

The growing of the timber would not affect the water bearing value of the lands and thus they could be made of double value to the owners and it might be that the timber crop in time would be the more valuable of the two.

Ranchers in the vicinity of the city would do well to plant tracts of eucalyptus, judging from the experience of the city thus far, in forming syndicates for the intelligent cultivation and growing of the timber which in a few years will be most valuable, owing to the rapid disappearance of the forests in the timber-producing districts of the country.—San Bernardino Sun.

## THE BERRY INDUSTRY.

(Continued from Page 608.)

means putting a shovelfull of soil on the tip of the new growth, in the winter, causing it to take root. By spring they are ready to plant. Thorough preparation of the ground and good care afterwards will give the results obtained in all other fruit planting.

tions, fruit unions, farmers unions, fruit exchanges, and so forth. This together with the canneries continually telling us that we were producing more than they could sell only at a low price, infected us with the microbe, or perhaps "parasite" of co-operation. Or at least a part of us, for I believe there has never been any community yet where the disease has reached but a part of the inhabitants were immune from all forms of contagion.

Those of us who took "it" in the worst form, talked co-operation in season and out. This finally resulted last February in the formation of the Sebastopol Berry Growers Incorporated, under the laws of the state, with a charter which allows us to do anything we might care to do in the fruit and farm supply line. This happily took place just in time to prevent half of us having our wives leave us in disgust.

I wish to say that it is actually appalling, the amount of time and talk it takes to get this virus to work.

We incorporated with thirty out of one hundred and twenty-five growers; secured a manager in the person of a

ence as an asset for future business.

Some of the things we found we needed, and succeeded in getting; in part this year, and a promise of next were; lower rates, smaller minimum loads and better railroad times and connections.

While we are in the habit as fruit growers of laying most of our troubles to the railroad and express companies there is one thing we must not lose sight of; and it is this; unless our fruit is properly picked, packed and loaded, all the railroad rates and service in the world cannot make it arrive in good condition at the other end. This rests with your individual growers and corporation inspection.

While some growers think they will lose their individuality by joining an association, they really have a wonderful opportunityt to preserve it in this way.

There is no doubt but that co-operation is a remedy for many of our ills. This is an age of combination. But it must be carried on strict business principles and we have much to learn. We may perhaps have to wander in the wilderness until we grow a new lot of men that are willing to give and take and pull together for their own sakes as well as the community, for the prosperity of a community is in a direct ratio to the prosperity of the individual. In the meantime we will have to depend largely on a Moses for leadership. But it does look as though the children of Israel had a pretty good time even in the wilderness. They certainly did not have to make any bricks for the Egyptians.

| | |
|---|---|
| LEMONS— | Avge. |
| Lotengo, Fy, Sparr F. Co. | $4.30 |
| Del Oro, Ch | 3.85 |
| NAVELS— | Avge. |
| Blue Label, TCC, Ex, Lindsay | $2.55 |

CLEVELAND, Dec. 13.—One car navels and one car lemons sold. Prices low on navels account quality. Very strong on lemons. Raining.

| | |
|---|---|
| NAVELS— | Avge. |
| Zebra, TCC, Ex, Lindsay | $2.05 |
| LEMONS— | Avge. |
| Harmony, SA, Ex | $4.35 |
| Greyhound | 4.20 |

## PLANTING OF EUCALYPTUS.

(Continued from Page 612.)

wood working establishments in San Bernardino and thus build up the city while turning vast tracts of valuable lands to profit to their owners. This is a thing worth thinking about. It should enlist the careful thought of the owners of these lands, or others who might want to speculate in that direction.

With large tracts of eucalyptus growing about this city, there could be built up a line of industries, varied in their character, which would follow in the train of the production of the hard wood timber, that could

### Harvesting and Marketing.

The first fruit growers convention which I had the privilege of attending was in San Francisco seven years ago. In one of the discussions there the Hon. John Markely made this remark, "We have been telling the people in these conventions for the past twenty years how to grow fruit, but from now on we must show them how to harvest and market it."

And these are the two most important factors in any kind of fruit growing, proper harvesting and then getting the price that will justify the cost and labor of production.

Fruit raising of all kinds had its up and downs here in California, where production has been easy compared to reaching our distant markets, and our berries have been no exception to the rule. In these years of development of under production, over production, over consumption and under consumption, the berry business has had as many stages of prosperity as the much quoted prune.

We have heard in our district over by the coast a great deal these past few years of raisin growers associa-

party who had done considerable berry shipping business; thus securing all the available experience in this line.

Our main effort the past season was to get as many of our berries into fresh consumption as possible and thus relieve the canneries. By the time the crop was ready we had increased our membership to eighty. We took up the matter of carload shipments with Wells Fargo & Co., who gave us all the assistance in their power with the result of our sending a representative to the large Rocky Mountain and northern cities, including, Ogden, Salt Lake City, Denver, Butte, Spokane, Seattle and Portland and of our dispatching one or more cars to each of these cities. In some of them we did well and in some we did not, but all the time we were learning, and after the season was over and the smoke of battle cleared away we found that Wells Fargo had gotten about $8000 for transporting our berries, and after all our expenses were paid, we had as much or a little more than the man on the out side and our experi-

## Business Notes

### LOYAL TO CALIFORNIA.

California should be proud of Jack London, who, unlike many other writers, is loyal to his native state. He has recently returned from a two-years' cruise in the "Snark," during which time he visited many almost unvisited islands in the South Seas. He has written a wonderfully vivid and interesting account of this cruise, which will appear during the coming year in The Pacific Monthly, published at Portland, Oregon. His first story appears in the December, 1909, issue. Each story is distinct in itself, yet each one treats of some incident of the cruise.

Cut this notice out and send it with $1.00 to The Pacific Monthly, and you will receive this magazine until September, 1910, and the December number, just issued, containing Jack London's first story, will be sent to you free. Address, The Pacific Monthly, Portland, Oregon.

From Mr. O. W. Lehmer of the Yosemite Valley Railroad, Merced, Calif.: We have received considerable literature in regard to the Yosemite Valley as a winter attraction. Since the opening of the railroad from Merced to El Portal, the hardships of the winter trip have disappeared and there is given the opportunity of one of the most picturesque and satisfactory winter trips that can be imagined. The cost is not expensive when one considers the grandeur of the outing. The fare for the round trip from Merced is $18.50, but for parties the excursion rates are less. The hotels charge $4.00 a day for accommodation as good as can be found in any large city. To anyone wanting a winter outing a letter to Mr. Lehmer will bring full information of one of the most pleasant trips that could possibly be imagined.

The Tulare county citrus fair held at Dinuba made good as to expenses and has $28 in excess.

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Will keep right on { Pumping / Pumping / Pumping

YEAR IN AND YEAR OUT.

Using least fuel
Requiring fewest repairs
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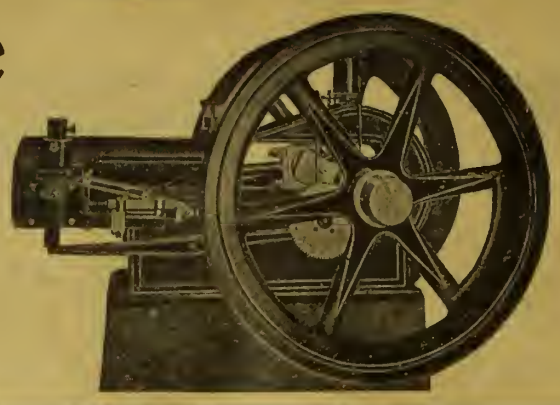

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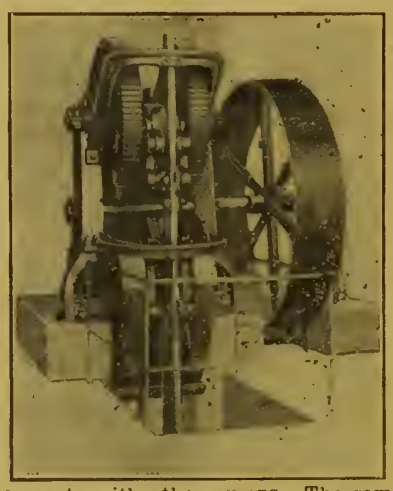

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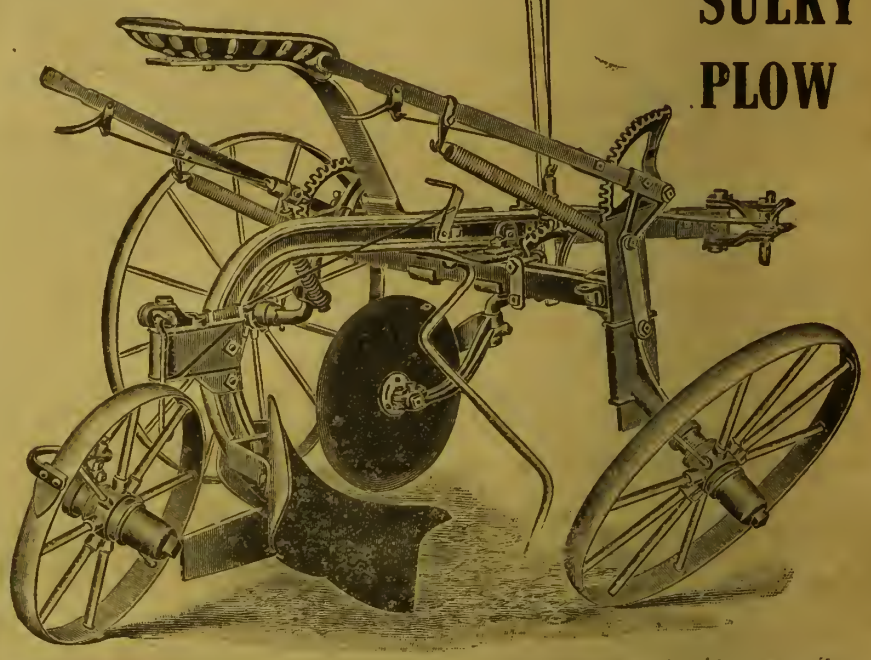

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## Not too Light
## But Just Right

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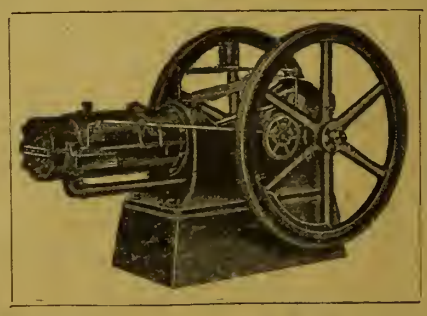

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# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles December 23, 1909 San Francisco


## When Daddy Lights the Tree

We have our share of ups and downs,
  Our cares like other folk;
The pocketbook is sometimes full,
  We're sometimes nigh dead broke;
But once a year, at Christmas time,
  Our hearth is bright to see;
The baby's hand just touches heaven
  When Daddy lights the tree.

For weeks and weeks the little ones
  Have lotted on this hour;
And mother, she has planned for it
  Since summer's sun and shower,
With here a nickel, there a dime,
  Put by where none should see,
A loving hoard against the night
  When Daddy lights the tree.

The tiny tapers glow like stars;
  They 'mind us of the flame
That rifted once the steel-blue sky
  The morn the Christ-child came.
The blessed angels sang to earth,
  Above that fair country,
We think they sing above our hearth
  When Daddy lights the tree.

The weest child in mother's arms
  Laughs out and claps her hands;
The rest of us on tiptoe wait;
  The grown-up brother stands
Where he can reach the topmost branch,
  Our Santa Claus to be,
In that sweet hour of breathless joy
  When Daddy lights the tree.

Our grandpa says 'twas just as fine
  In days when he was young;
For every Christmas ages through
  The happy bells have rung.
And grandpa's head is growing gray,
  But yet a boy is he,
As merry as the rest of us
  When Daddy lights the tree.

'Tis love that makes the world go round;
  'Tis love that lightens toil;
'Tis love that lays up treasure which
  Nor moth nor rust can spoil;
And love is in our humble home,
  In largesse full and free;
We all are very close to heaven
  When Daddy lights the tree.

—Margaret E. Sangster.

# EVERYTHING FOR THE RANCHER.

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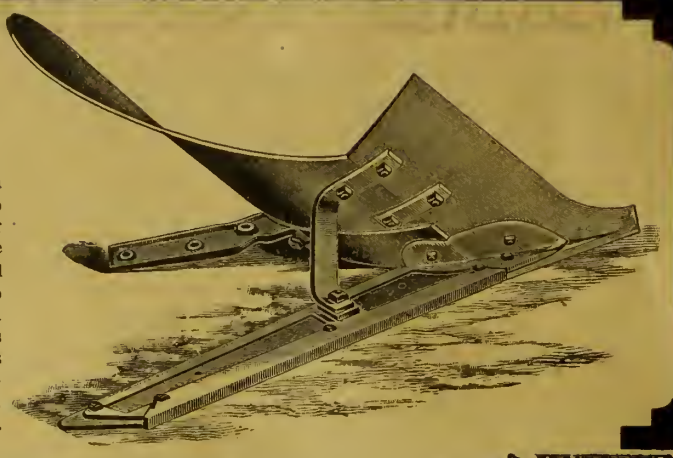

Mr. Rancher, look at the illustration in this advertisement of the way the bottom of a Syracuse Steel Walking Plow is constructed. Then if you are interested write for 80-page illustrated catalogue of Syracuse plows, catalogue No. 29. We will promptly forward catalogue on application. These plows are for sale by the leading dealers throughout the country. If your dealer does not carry them write us direct and we will name you delivered price.

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# California Cultivator

Vol. XXXIII—No. 26 Los Angeles, California, Thursday, December 23, 1909 Subscription $1 a Year

# Grape Storage and Transportation Investigations

## of the Department of Agriculture

An Address Before the State Fruit Growers Convention by Prof. A. V. Stubenrauch

THE grape storage transportation investigations of the Bureau of Plant Industry of the U. S. Department of Agriculture, begun in California several years ago, form part of the Fruit Storage and Transportation Investigations of the Department carried on in different sections of the United States. These investigations include a complete study of the various problems connected with the handling of fruits in storage and transit—the two are practically the same, fruit in transit being simply held under storage conditions while being hauled across the continent. Naturally, there are many factors which have to be considered, but the investigations have narrowed down principally to a study of the relation of handling in picking, packing and preparation for market to the occurrences of decay and deterioration in storage and transit. This part of the problem is fundamental and it frequently happens that when once this is thoroughly understood, the other parts of the investigation are comparatively simple.

From all the Bureau work on this problem one fundamental principle has been deduced, a principle so important that frequently the only problem connected with the avoidance of troubles in storage or transit is an application of the principle to local practice.

It has been shown that the different kinds of molds which cause the most common forms of decay in fruits while in transit and in storage are unable to penetrate the sound, normal, skin of the fruit. These molds generally gain entrance through mechanical abrasions produced in the preparation of the fruit for market. It is not unusual to find ten per cent of apples showing cuts or abrasions in the skin. Small fruits are more commonly injured, while oranges frequently show from ten to fifty per cent of the fruit with the skin cut by the clippers in severing it from the trees or by rough handling of the fruit in the packing houses. It has been demonstrated that by careful handling in the picking and packing of oranges under commercial conditions the injuries can be overcome and the decap can be almost wholly eliminated.

During the past four years the storage investigations have been extended to the table grape industry of California. These investigations were started with two main objects in view: A study of the factors which affect the keeping quality of grapes in transit and storage and the possibility of extending the markets and season of California grapes, ultimately with the hope of replacing the two-million-dollar importations of fresh Spanish grapes with the California-grown product held in common or cold storage. At present practically the entire Tokay grape crop has to be marketed within sixty days. Within a few years the output of this variety will nearly double. The necessity of either extending the season of marketing or of developing new markets becomes of vital importance.

### Cold Storage Experiments.

Our first efforts were directed toward the storage prolems and the results obtained in this work had a direct bearing on the transportation problems which were to follow later. A careful study of the behavior of a number of important grape varieties was begun. Some of these were grown commercially, some were not, and were included in the experiments to determine their suitability for introduction to commercial vineyards. The list of varieties includes the following, most of which were obtained from the University Experiment Station near Tulare, through the courtesy of the California Station officials: Flame Tokay, Muscat, Malaga, Thompson Seedless, Ferrara, Emperor, Verdal, Black Prince, Cornichon, Huasco, Bowood, Pizzutella, Perruno, Chasselas de Fontainebleau, Zabalkanski and Almeria. Last year and the present season varieties from Lodi included the following: Flame Tokay, Emperor, Ferrara, Verdal and Cornichon. This season a number of new varieties grown on the Government Experimental vineyards at Fresno and Oakville were added to the list, but as this work is only begun these varieties need not be named here.

The preliminary work included a test of different methods of packing: In crates without filling, and in tight boxes with various filling materals in comparison with ground cork, such as is used with the Almeria grapes imported from Spain. The list of packing materials, besides the ground cork included: Paper, both shredded and as a wrapper, wheat, bran, corn meal, ground corn pith, shredded and cut tule and redwood sawdust. All of these substitutes except redwood sawdust have been found unsuitable and have been abandoned. Redwood sawdust has been further tested and all of the results so far show that it is superior to the cork. The grapes packed in this sawdust hold longer and in better condition, and in future we shall probably confine our investigations of grape fillers to this material. It seems particularly fortunate that so valuable a substitute is at hand. It would be impracticable to use cork in this state on a large scale both on account of its high price and comparative scarcity. It is evident that the importers of Spanish grapes are becoming aware of the superiority of redwood, as already inquiries are being made in the interest of foreign growers regarding the practicability of obtaining this sawdust in quantity.

It is impossible at this time to state the reason for the better holding qualities of the redwood sawdust. At first it was thought to be due to the greater fineness of the material, but a comparison of it with cork ground or shredded to the same degree of finesess as the sawdust, while it shows some difference in favor of the finer ground material, does not indicate that this is the only cause. So far, no attempt has been made to treat the sawdust in any way except to be sure that it was thoroughly dry. The material has been obtained from planing mills working on dried lumber, and consequently the dust has been rather fine. The use of this fine sawdust this season on a rather large scale shows that while the fine material holds the grapes in prime condition it has a distinct disadvantage in clinging tenaciously to the grape berries especially around the pedicels, and it is difficult to dislodge these fine particles without a strong air blast. It is therefore evident that before redwood sawdust can be used commercially it will have to be freed of the fine dust and splintery particles. Millmen assure us that this would be a comparatively simple and inexpensive process by using a fan, and it could be done at the mill without difficulty if the demand for the cleaned sawdust becomes great enough.

The flavor of the grapes packed in redwood has never been found to be tainted as long as the sawdust is pure. A slight mixture of pine or cedar, however, seems sufficient to flavor the grapes when held in storage for some length of time.

The storage investigations show that for long holding a filler will have to be used. All varieties with the exception of the Almeria, and possibly the Emperr,, do not hold in first-class condition longer than thirty to forty days packed in crates, or too short a time, usually, for the holiday trade which is the market offering the best demand for fancy grapes in good condition.

It has been shown in the investigations with other fruits that one of the most important factors in the successful handling of fruits either in storage or in transit is quick shipment or quick cooling after the fruit is harvested. The sooner the fruit can be cooled after it leaves the tree or vine the longer time it will continue in first-class condition. This is especially true where there are any appreciable mechanical injuries in handling. It has been shown with oranges, for example, that after a delay in shipping or cooling of two to four days, the decay in transit map be from two to five times greater than under immediate shipment or cooling, depending upon the amount of mechanical injury in the fruit. These factors of quick shipment and quick cooling of two to four days, the decay in transit may case of table grapes than they are with oranges, for the reason that the ordinary grape package offers ideal moisture conditions for the development of molds and if the proper heat conditions are present molds are almost sure to occur. When a filler is used quick cooling is just as important if not more important. The filler acts, to a certain extent, as an insulation and cooling will be relatively slow under the best conditions. The converse is also true, and consequently the fruit should be packed as cool as possible. A very appreciable effect can be gained in this respect by taking advantage of natural cooling overnight, and where picking is done in warm weather it is always best to allow the grapes to remain open over night and pack the next day while cool. We had a good illustration of the deleterious effects of warm packing and declay in cooling during the present season.

The question has been asked whether grape storage will ever become a commercial business. We believe it will, and plans are being considered by the Bureau to extend the investigations along commercial lines and some of the grape growers of the State also are planning to make a commercial test next season. In the carrying-out of these investigations, nothing has been done which cannot be done under commercial conditions. The problem connected with the proper condition of the sawdust and its preparation for use will be investigated. The one great governing factor will be the introduction of these grapes into the markets. Just how this can be done remains to be worked out.

Quite an appreciable local market has been developed for cold storage grapes in Southern Cali-

(Continued on Page 648.)

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# Citrus and Sub-Tropical Fruits

## CITRUS CULTURE AND DISEASES.

BULLETIN number 203 of College of Agriculture Experiment Station, which is a report of the Plant Pathologist for three years, is most interesting and instructive. It is writen by Prof. R. E. Smith, superintendent of the Southern California station. It touches upon a wide range of pathological subjects. From a few paragraphs under Citrus Culture and Disease we quote:

One of the most important undertakings of this Division is the study of citrus culture, this work being prominent both at the Whittier Laboratory and at the Riverside Station. The whole subject of citrus culture demands more and more attention from scientific investigation as the industry grows older, and the station founded at Riverside especially to meet this demand has possibilities of a most useful development, while at the same time its responsibilities to the industry are great.

The commencement of this citrus work under the direction of the Division of Plant Pathology should by no means be looked upon as an indication of a narrow scope or limited field in the future of the work, or that it is expected that its many phases will be covered in a superficial manner by work from a single standpoint. It is rather the intention to make these Stations centers of research on problems relating to citrus culture, developing facilities and special departments as rapidly and efficiently as possible.

### Disease Investigations.

The study of diseases or failures of citrus trees in California is a most complicated problem. This is due to the fact that the chief troubles are not of parasitic origin, but are due to abnormal physiological conditions brought about by the artificial environment under which the trees are grown. The exact nature of these troubles is in most cases extremely difficult of determination, while a demonstration of a remedy or corrective for the same is even more difficult. The case is very different from those where fungous or similar diseases occur. In fact, it is not entirely a question of health and disease with the citrus crop, but rather one of commercial perfection and its opposite; in other words, the perfection of desirable commercial qualities is by no means the same as natural development or natural health. The fact is that the work of the plant pathologist in California with citrus fruits is not limited to the study of actual disease and the means of avoiding it. He is rather called upon to advance commercial perfection and learn how to overcome conditions which are undesirable from this standpoint, whether they be ones of actual disease or not. For this reason it is natural that problems of soil fertilization and other cultural considerations should be closely associated with the work of the pathologist, since they cannot be sharply segregated.

A thorough study of what may be called the actual diseases of citrus trees in this state is being carried on in Southern California, both in the field and laboratory. As a result of this work thus far it may be said in general in regard to citrus diseases that almost nothing has been found which may be ascribed to the effects of any parasite. If we except decay of the fruit and a very few minor cases, the above statement may be made an absolute one. It is a fact beyond question that the most serious troubles with citrus trees in California are the effects of unfavorable natural conditions and not those of fungi, bacteria or other parasites. Some of these effects are at present most obscure, and difficult or impossible to account for in any satisfactory manner. Yet the study of the various diseases and of the nature of the tree itself has been sufficient to show that the above statement is true.

The citrus disease investigation is being conducted in the field by various members of the staff, while a large amount of more technical work is being done at the Whittier Laboratory in the preparation and microscopic study of affected tissues.

The particular diseases or troubles under consideration at present may be named as follows: Gum disease of the lemon, scaly bark of the orange, Florida die-back (Exanthema) of the orange, puffing, splitting, brown spot and staining of the orange, and pitting of the lemon. These are all serious trouble affecting very materlally the production of groves and the financial returns from the fruit.

The so-called "brown spot" of the orange is a subject which received considerable attention during the past year. This is a peculiarly obscure problem, and no positive results have been obtained as to the nature of the trouble or methods for its control. The disease shows itself in the form of dark-brown sunken spots of considerable size on the surface of the orange. These spots are not visible while the fruit is on the tree or when freshly picked, but develop within two or three weeks after picking, thus appearing mostly after the fruit has reached the eastern markets. The spot affects the most fancy, smoothest fruit worst and occurs abundantly only in certain sections. We feel safe in saying that it is not caused by any insect, fungus, bacterium or other living parasite and is not the effect of fumigation, spraying, ordinary frost or any such thing. The spot itself is simply a portion of the rind which weakens prematurely and becomes dead, dry and dark colored. Some influence must act upon the fruit at some time previous to the beginning of the picking season which causes the rind to be injured or weakened in these spots. It seems most likely that this influence is connected with some climatic condition peculiar to the region in which the trouble occurs. A large amount of negative information was obtained during the past season which is not without value in simplifying and more clearly defining the problem. The work will be renewed next season in a further effort to discover the real nature of this spotting.

In addition to these more specific diseases, investigation is needed in many cases of failures or troubles with trees which are occurring abundantly. This work commonly involves soil studies and chemical investigations of various sorts, and herein is illustrated the close correlation of such investigations with plant pathology proper in citrus work.

## MEALY BUG.

The mealy bug will do more damage to the citrus groves than any pest yet discovered except the white fly. It has done $75,000 or $10,000 damage already in Santa Paula.

They do not kill the tree but throw off a honeydew that causes smut which makes the oranges unmarketable. The horny variety of mealy bug does no damage but there is a colony of the dangerous variety right here in Fullerton. They seem to do but little damage at first but after a few years they spread very rapidly. It takes a very much stronger gas to kill the mealy bug than it does to kill any kind of scale.

The lemon tree will stand much stronger gas than the orange and it would be easier to kill the mealy bug on them. We should quarantine against the mealy bug at once and then form an association and raise money and buy the infected trees and destroy them.

The purple scale is an example of how a pest will spread. A few years ago they were in only a few of the groves and now scarcely any of them are free from this pest.—C. E. McFadden at Fullerton Institute.

---

A farmer at Pullman, Washington, has refused $1.22½ for bluestem wheat and asserts that he will not sell till he gets $1.25.

Save for the Home at the Home Savings

**Your Money Grows Here**

You draw out more than you put in when you become a savings depositor at this Home Bank. Your profit is definite, sure, constant. Every year is a prosperous one. Begin now. Keep your surplus funds at work.

**We Pay**

**3% Interest on Minimum Monthly Balances of $300 or More, Account Subject to Checking.**

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**Home Savings Bank**
Alexandria Hotel Bldg.
**Fifth and Spring Sts.**
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THE "BOSS"
**Tree Protector**
MADE OF YUCCA PALM

Is cheap, durable, and quickly put on the tree. It prevents rabbits from destroying your trees. A sure protection against frost, sunburn, grasshoppers or dry winds. Can be easily removed; will last for years Send for samples.

PRICES

| | PER 1000 |
|---|---|
| 10 in. long, 7 in. wide, | $ 9.50 |
| 12 in. long, 7 in. wide, | 10.50 |
| 14 in. long, 7 in. wide, | 11.50 |
| 16 in. long, 7 in. wide, | 13.00 |
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| 24 in. long, 7 in. wide, | 17.00 |
| 30 in. long, 7 in. wide, | 20.00 |

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**HYDRATED LIME**

1 part Taylors Hydrated Lime
3 parts best Resubilmed Flowers Sulphur ..... mixed in a common mortar box

Has given highly satisfactory results in many orange groves, gone over by several different contractors using largest power machines, as a dry spray for the

**Red Spider of the Orange**

Hydrated lime is the ideal diluent and vehicle for the sulphur—and reduces the cost.

**$15.00 a ton net in 100 lb. sacks. Sacks 15c extra.**

**W. H. TAYLOR** 846 Commercial St. Los Angeles, Cal.
or
**J. S. SCHIRM** 4th and K Streets San Diego, Cal.

**For Sale, Fine Lot of Orange Seedbed Stock**

**Both Sweet and Sour**

Also one-year Navel and Valencia Buds, ⅝ in. up. For particulars call on or address

**T. J. Locke**
**27 North Stoneman Avenue**
**Alhambra, California**

Drop us a card for wholesale price list of

**Citrus and Ornamental Stock**

**Enterprise Nursery** Silas Toms & Son Pasadena, Cal

**Orange Trees For Sale**

**Navel and Valencia.**
**J. S. Killian, El Monte, Cal.**
**Phones: Sunset, 8x4. Home, Red 31, or**
**L. C. Rice, Tropico, Cal.**
**Phone Sunset Glendale. 263**

Farmers institutes were held last week at Fowler, Kerman, Parlier, Tulare and Corcoran.

## THE TRUE NATURE OF BACTERIA.

As a usual thing, when bacteria or germs are mentioned, we are apt to think of them as something to be dreaded and something from which no good could ever possibly come. This mistaken idea has arisen largely from the fact that our attention has been repeatedly called to this phase of germ life and nothing has ever been said about the immense benefits which we derive from it. Magazine and newspaper advertisements have been responsible for many of the wrong impressions about micro-organisms, for they have published illustrations in connection with advertisements for water filters, patent medicines and the like, in which they have pictured bacteria as miniature sea serpents, possessing thousands of wriggling legs, lashing tails, grinning jaws, mouths full of teeth and protruding fangs. Granted that the average reader knows better than this, these pictures do have their influence. Once and for always let it be here stated, for the benefit of those who may have been misinformed as to the correct nature of bacteria, that they are not animals, but minute plants, so small that it would take twenty-five thousand of some of them, placed end to end, to make one inch. When viewed under a powerful microscope, we can see that germs possess, in general, three different forms, namely, cylindrical, like a capsule, spherical, like a ball, and spiral, like a corkscrew.

In addition to these three forms, which are known as vegetative forms, and which correspond to the leaves and stems of higher plants, some bacteria produce tiny elliptical or spherical bodies within their vegetative cells. These bodies are known as spores and serve the same purpose as the seeds of flowering plants, namely, to carry the germ through a critical period and to reproduce the species upon the return of favorable conditions.

Although plants, many of them can swim about in water and milk and the body fluids of animals as actively as if they were little fish, they are able to accomplish this by means of very delicate thread-like appendages attached to the sides or ends of their bodies. These swimming organs are known as flagella.

The growth and multiplication of bacteria are very simple and rather rapid processes. As soon as a germ reaches maturity, it divides in the middle and becomes two germs in much the same way as you would separate two halves of a capsule. Under favorable conditions this division takes place once in about every twenty minutes, so that if you have one newly formed germ at the present moment, you will have two similar to this one in twenty minutes from now, four in forty minutes, and eight after one hour. At this rate of increase, it does not take a bacteriologist to tell you that, if numbers count for anything, in twenty-four hours you may have enough bacteria on your hands to do you a great deal of good or a great deal of harm, depending upon the kind of germs you are growing.—Walter G. Sackett, Colorado Agricultural College.

## BISULPHIDE OF CARBON.

This liquid is used in destroying stored grain insects and the like, and also some pests under ground, but principally the former. The liquid evaporates very rapidly, the gas being deadly to animal life when confined in it for any length of time. In fumigating grain or other similar material use one to three pounds of the liquid to 100 bushels of grain. The gas is exceedingly explosive; therefore do not allow any light, cigar or pipe around the building when fumigating. It is sometimes injected into the soil around the roots of the plants to destroy certain pests. In such cases a tablespoonful of the liquid injected a short distance from the plant would be sufficient. The gas is heavier than air and consequently it will sink into a pile of grain or down into the earth.

Residents of the Perrin Colony are proposing large things in drainage to reclaim alkali land.

**This powerful I.H.C. Engine will reclaim your waste land**

IT is one of the great family of I.H.C. engines which is bringing unheard-of farm prosperity where all was a barren waste a few years ago.

Thousands of farmers are using these simple, powerful engines for irrigating their lands, and they have no other source of water supply. The engines pump water where it is needed. They pump water in quantities. They do it economically.

Have you a water problem to solve? Why not look into the matter and see what one of these engines will do for you?

**What I. H. C. Gasoline Engines Mean to Irrigators**

**First**—In hundreds of cases they avoid the necessity of going away up-stream and building long, expensive ditches.
**Second**—They do away with costly ditch maintenance.
**Third**—They make an independent water supply possible.
**Fourth**—They enable you to store in reservoirs on your own farm the water that would otherwise flow by in the low-lying stream and run to waste.

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Call on the International local agent for catalogue and full particulars, or address the nearest branch house.

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Made from California Redwood or Selected Washington Douglas Yellow Fir

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LOS ANGELES OFFICE—404 Equitable Bank Bldg.
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Prices, specifications, hydraulic data and general information furnished upon request

**Sour Orange Seed-Bed Trees** Sweet Stock, Rough Lemon Stock.

***Eureka Lemons, Washington Navels, Valencias.*** Order early and avoid last season's experience of not being able to get the trees you want. ***SOUTHLAND NURSERIES, F. H. DISBROW, Prop., Pasadena, Cal., R. D. 1. Phones—Main 949, Home 2520.*** Reached by taking Lamanda Car East on Colorado Street. Largest Citrus Seedling Nurseries in the State.

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**Rex Lime and Sulphur Solution**

**The Famous Insecticide and Fungicide**

It has been found that Rex Lime & Sulphur Solution used in the early part of the season is as effective for Blight as the Bordeaux Mixture, and it does not have the injurious effect upon the tree as Blue-Stone. In Oregon and Washington the use of Bordeaux is being entirely eliminated and lime and sulphur solution used for all purposes. The leaves are falling from the trees, and especially the Peach, Almond and Apricot should be immediately sprayed for the first spraying. The second spraying should be done on all trees just before the buds open in the Spring.

Rex Lime & Sulphur Solution is a guaranteed article; properly prepared; free from sediment, and as cheap, if not cheaper, than the farmer can make a mixture himself.

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# Deciduous Fruit Culture

## DEVELOPMENT IN FIG CULTURE.

(Continued from last Week.

### Cuttings and Caprifigs Available from the Loomis Orchard.

At the Maslin seedling fig orchard at Loomis, Placer county, which is under lease to the U. S. Department of Agriculture, are several very desirable capri, as well as a number of choice trees of the Smyrna type. These capri trees have now been sufficiently studied to enable us to select a half dozen or more of the very best. They are vigorous trees producing mamme and mammoni crops in sufficient abundance, and above all enormous profichi crops of large figs, abundantly infested with Blastophaga and having plenty of pollen. The resources of this orchard, both in caprifigs and cuttings, are placed at the disposal of all who are interested in fig culture. Cuttings from the best trees without cost and caprifigs at the bare cost of gathering and shipping will be supplied when requested. Anyone desiring either the fruit or the cuttings has only to send his name to the writers at 1813 Pierce street, San Francisco, and he will receive blank applications and circulars giving the conditions of the distribution. Last winter nearly ten thousand cuttings and seedling trees, and last spring several hundred boxes of mamme and profichi caprifigs were distributed. This winter and next spring further distributions of the most desirable kinds will be made.

### Planting Capri Trees.

Every grower should aim to have an independent supply of fertilizing material of his own. This can be done only by planting a number of varieties of the best capri trees proportionate to the number of Smyrna trees in his orchard. If he has old trees of any variety he deems undesirable for any cause, let him insert capri grafts of the best kinds and by this means supply himself much sooner than by waiting for young trees to come into bearing. Smyrna trees will show some fruit as early as two and three years and will, if caprified, come to perfection. It is recommended that capri trees at the rate of two to each acre of Smyrna trees be planted by themselves in one corner of the orchard, or if there is a knoll or spot reasonably free from frost, put them there. They may be planted as near as 20 feet apart and if shelted by a windbreak to keep off cold winter winds all the better. A number of growers may combine and plant a tract to capri trees in a sheltered spot even at a distance from their orchards, if thereby they can secure protection from the hardest frosts and also obtain earlier profichi caprifigs in readiness for the first Smyrna figs that reach a receptive condition. There is no danger of an over supply of caprifigs, for there will always be a demand for the surplus from growers who have from some cause an inadequate supply. In the fig districts of Asia Minor, where fig growing has been a great industry for thousands of years, caprifigs are a regular article of trade in the markets.

The reason for planting capri trees apart from the Smyrna trees is that they more effectually fertilize each other and that a more even distribution of the caprifigs may be made by and among the Smyrna trees. The question is often asked: Why not plant the capris among the Smyrna trees and let nature take her course? In Asia Minor it is firmly believed that over-pollination is the cause of the splitting of figs. The writers do not believe that this is the sole cause, if a cause at all, of the trouble, for reasons that will be given farther along. It is not desirable that more than one or two Blastophagas should enter each Smyrna fig. At Loomis where at times the insects are seen hovering over the trees like swarms of gnats, it is not unusual for a dozen to enter a single fig. One of the writers has counted as many as 25 wasps in one fig and another struggling mass of 15 at the entrance trying to get in. Capri trees planted at considerable distances from each other in the orchard receive very little help from other capri trees in carrying the insect from crop to crop, and when the tree is of a variety that carries no mamme crop, its profichi crop is likely to be a failure. It may be noted that the more accessible the figs to be caprified are to the Blastophaga, the more of them will be entered. In some instances we know that the wasp has fertilized trees some miles away, perhaps carried by the wind, but not in sufficient numbers to produce a crop.

### The Splitting of Figs.

The past season is reported everywhere to have been an ideal one until the September rains came. These were followed by cool damp weather with considerable splitting and souring of figs. It is the sentiment of many growers that splitting is caused by cool damp weather and not by over pollination, nor excessive irrigation. One of the writers has seen figs growing on the banks of an irrigating ditch, in which water was flowing a good part of the year, and the fruit on these trees split no more than on trees in other parts of the orchard which were irrigated only twice during the season. One grower, however, speaking of the large size of the figs on these trees said he would rather have some splits than small fruit. One large Smyrna fig orchard planted on ground so moist that a drainage canal is being constructed through it, showed very few figs. Certain trees and some varieties, the White Adriatic for instance, split worse than others. In the Maslin orchard are trees with fruit that split more or less every year, while others, equally surrounded by capri trees and swarms of Blastophaga, show no splitting at all. Location seems to have something to do with it, as in Fresno county in those orchards near the foothills the trouble seems to be less prevalent than out in the valley. The past season in most localities has been the worst in several years. Still it is not a very serious matter. It is noticeable that of the Lob Ingir many split specimens close up in drying and still make good figs. This fig contains so much sugar that, unlike the White Adriatic, very few sour even when split. It is at present difficult to account for this trouble in many cases and the subject should have further study.

### Curing Figs.

It is well known that when the Smyrna fig is perfectly ripe and nearly dry it falls to the ground. It is likely that most growers will find it less troublesome and about equally profitable to sell the product to the packing house as soon as sufficiently dried, rather than attempt to gather around him the necessary labor and appliances to put his fruit into elaborate packages in order to secure the highest price.

A few suggestions, some of which represent the experience of the growers who are putting up the best figs now on the market, may not be out of place at this time and may be of service to the inexperienced. One of the most important details, though troublesome, is to gather the fruit from the ground very often, in fact as often as every other day. This will in a great measure prevent the entrance of beetles that lay their eggs and make wormy figs. Another important consideration is not to dry the figs too much. If too dry the seller not only suffers by loss of weight, but also injures the quality, as over dried fruit must be processed before it can be packed. When the figs have become sufficiently cured they are still pliable, yielding to a slight pressure of the fingers. In very warm weather the smaller figs are sufficiently dried when they fall from

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***San Jose, Cal.***

**Eucalyptus Trees**

**Red and Blue Gum**

Specially prepared for cheap transportation and safe transplanting. Write for particulars to

**HENRY SHAW, Santa Cruz, Cal.**


The Wenatchee Valley Fruit Growers' Association recently shipped 26 cars of apples in one shipment to London.

the tree. The larger will require exposure to the sun on drying trays for two or three days. After the figs are sufficiently dried they are rinsed in clean water to remove any dust or dirt that may have adhered to them and are then exposed to the sun long enough to remove the surplus moisture. After grading as to size they are put into sweat boxes and are pressed down into a solid mass where they remain a week or ten days to undergo a sweat. This treatment is a very important part of the curing process. The overdried fruit absorbs moisture from the under dried, softens the skin and is a decided benefit to the whole. In this condition the figs go to the packer.

In order to kill germs or the eggs of insects that may have been deposited in the figs while exposed under the trees or on the drying trays, some packers expose the fruit to hot steam for a few minutes, while others immerse it in boiling brine, made with three ounces of salt to a galion of water, for two or three minutes. In curing the figs exhibited salt was used. After this heating process the figs are soft and pliable and are then split open from stem to apex and spread out in layers and pressed into bricks of a pound or half pound in weight and are then either wrapped in waxed paper, like those before you and the bricks packed into 25 pound boxes, or are first put into fancy cartons and then packed into boxes of various sizes.

It may here be mentioned that certain varieties of trees produce figs that may be called self sealed, the eye being stopped by a drop of hardened syrup or pellucid gum that effectually prevents the entrance of filth, beetles and other vermin, and thus assures figs that will not get wormy without the scalding process. Cuttings of this variety will be available from the Department distribution mentioned above.

**Conclusion.**

While the production of the finest figs requires some attention to details, such as the care of the capri trees and caprification, not necessary in growing other fruits, there is nothing in the work not easily mastered by laborers of average intelligence; while the fig tree possesses compensating advantages. The crop is never lost by late spring frosts, the tree requires little pruning, no spraying and no thinning of fruit, which means a saving of labor fully equal to that required in caprification. The prospective fig grower need not, therefore, be deterred from entering upon the industry for fear of troublesome details, while he can be assured that when his trees are five or six years old and in suitable soil and climate, they will bring him a gross income of about a hundred dollars per acre at present prices, with a steady increase for a generation to come.

## APPLE CROP.

Many of the middle western and eastern states reported small yields this season, due to failures in numerous instances, but generally because of pests. Orchards have been neglected and in scores of places the trees have been permitted to die because of lack of even ordinary attention.

In 1896 the total product of the crop of the country was 69,070,000 barrels, or 177,675,000 bushels. Since then hundreds of thousands of acres have been added and yet the government reports show that the aggregate crop in all the states in the Union was no more than 25,000,000 barrels or 62,500,000 bushels in 1908.

There will always be markets for apples. There never can be an overproduction of first class stock. It is, in fact, impossible at the present time to produce the quantity of good apples requisite to meet the demand. This is evidenced by the fact that England, Germany, France, Denmark, Australia and the Orient are already drawing on the orchards in Washington, Idaho, Oregon and British Columbia.—Green's Fruit Grower.

Coachella Vailey is contemplating the planting of many early grape vines this season.

The New Book of the Germain Seed & Plant Company of

**Vegetable and Flower Seeds, Ornamental Plants, Shrubs, Etc.**

Should be in your hands before you buy for spring planting. It gives full information as to the habits and characteristics of all classes of Farm and Field seeds, Flower seeds and Ornamental plants, and shows many of the best kinds as grown in tropical Fields, Gardens, Lawns and Yards. It suggests many numerous pleasing ideas for planting gardens LARGE and SMALL.

**A hint of what this new book is like**

Herewith we reproduce in Miniature the cover and one of the illustrations of this book.

**The Matilija Poppy**

shown herewith is thus described by the book, is such a handsome plant the Nursery Department gives it first place. The flowers are pure white, with great sweetness, make fast friends everywhere; they are very hardy and thrive in almost any soil, making both ornamental and desirable specimens for Lawn or Garden.

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This book has a very complete line of Vegetable, Farm, Field, and Flower seeds, a Nursery and Poultry Supply Department, has 100 pages and covers, is printed on a fine paper, has been carefully written from ripe experience of the Management of Germain Seed and Plant Co., and is illustrated from specially made photographs. It cost a great deal of money to produce this book, and each copy takes 3c postage. No promiscuous distribution to persons not interested in home ground decoration and gardening is practicable, but we will gladly send a copy Free of all Charges to anyone who owns a home, or expects to own one soon. The Edition is Limited, send your name in early.

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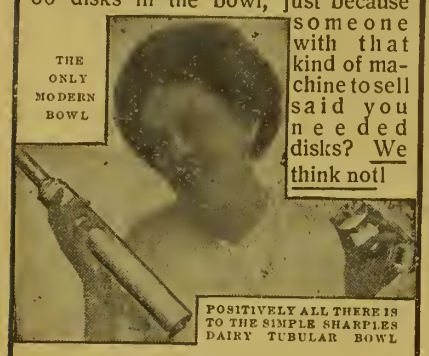


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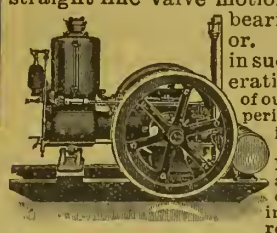

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# Live Stock and Dairy

Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

## ALFALFA.

THE old Fancher Creek ran across the lower portion of the home ranch, before it was made to run sedately between banks by the irrigation company. It used to run wild at high water over the land. The sediment carried was deposited in streaks of soil and clear granite sand. When these sand strips are planted to crops they are barren. The seed planted there is like the seed in the Bible parable, it springs up quickly and soon dies away from want of roots. These places will grow rye in the winter time and if this rye is turned under while green, it will add humus to the soil and often in a couple of seasons redeem the bare spots completely. Unless humus is added to the soil it is little use to try to make alfalfa take root. The nitrifying bacteria are necessary to a good yield of alfalfa and unless the humus is present these organisms have not the proper conditions for their multiplication.

### Inoculating.

A new planting of alfalfa should be inoculated to secure prompt returns. A simple way is to take up a few alfalfa plants in the old field and examine the roots for nodules. If plentiful take the soil from around the roots down to a foot or two from the surface. Haul in some fresh earth and put back the alfalfa plants that have been removed, for it will make a scar on the surface of the field to leave them out. The soil removed from around the alfalfa roots is put on the land with the new seed. Some times it is broadcast over the land from a wagon bed and then turned under at once. This may be successful if the day is dull and the covering done at once. Sometimes the seed and soil are mixed in the sower and thrown on the land and covered at once. The safe way however is to put in two-thirds of a barrel of soil and one-third of a barrel of seed and moisten the mass over night. The soil is taken in sacks, two sacks of earth to one of seed. They are mixed as the mass is put into the barrel and lightly sprinkled during the filling. The barrel is covered closely and taken out to the field. There it is rushed in the ground as quickly as possible and covered at once. Alfalfa manure is also a good way to inoculate land. This can be used to plow in early in the season and will secure abundant inoculation with active bacteria.

### Seed.

One farmer in this neighborhood has been figuring the actual amount of alfalfa plants that grow on an acre. Taking ten pounds of seed as a basis of sowing, he first weighed out one pound of seed and then figured out the number of feet in a tenth of an acre of land; then took the tenth of the land and a tenth of one pound of seed. This small amount of alfalfa seed was counted carefully by hand, only the good plump seeds being used. The surprising part of this was that he found that if 80 per cent grew that five pounds to the acre would give a stand of plants only a little over two inches apart. The reason why it is necessary to use twenty pounds of seed on an acre of land is slovenly preparation of the soil. The seed falls on poor land, poor in the sense of ill prepared, or the seed is not covered with earth and dries out or else it is buried too deep to reach the light. With alfalfa seed at eighteen cents a pound it is well to look into this matter closely. As a preparation, as well as a good moral lesson, if the man planting seed would turn to his Bible and read the parable of the sower and then think it over, the next year's sowing would be improved. The Bible also says, "My people do not consider."

### Growing Seed.

The best alfalfa seed comes from nearby places and is better than that imported into the state. The man whose water supply is not over abundant can make more by growing alfalfa seed than by growing hay. The first two cuttings are made into hay and then as the water from the winter rainfall has been pretty well used up, the plant makes the best seed. The third cutting is let mature slowly and then cut and thrashed. The straw left makes good horse feed and the seed is very profitable. Sometime a fourth crop comes on and is also cut for seed. The third crop is used because it is clean from weed seed, and also because it comes when it can be cured without danger of moulding.

The seed of alfalfa varies in color from olive green to yellow green in color and is two-thirds or more longer than it is wide. It always shows a distinct scar at the edge of the middle of greatest length. This is the mark or moon where it was joined to the pod. The actual form of the seed is a distinct crescent, a crescent that is blunted and slightly thickened in the center, or a crescent on one-half the other running to a square corner. The harmful seeds that come mixed with alfalfa seed are fortunately not numerous, the worst is the dodder that is quite distinct when it is closely examined. Dodder seed is round, yellowish brown seed and has a scar directly in the center where it was held in the seed cavity. The narrow slender alfalfa seed can be shaken end wise through a wire screen while dodder seed remains on the sieve. It pays well on account of dodder to screen all alfalfa seed.

### Dodder.

This plant proved abundant last season. Nearly all the new plantings were badly infested. The people at large do not as yet seem to have any very clear idea of the necessity of getting rid of it. I constantly meet renters that do nothing for it and say it does not matter as they sell the hay. So the dodder is seeding itself more and more on the alfalfa fields. It is distinctly a narrow view to think that it is right to sell a neighbor a pest that will in time decrease the value of his land. We can do nothing alone in this world and when I injure my neighbor I lessen the value of my own property. A poverty stricken neighborhood is one to shun and will not build up. Dodder not restrained will quickly make the land worthless for alfalfa growing. This plant is a wicked thing for it starts in life with a root like any other useful thing, but soon sends out a sucker into the neighboring plant of alfalfa and lives, blooms and forms seed on the juices extracted from the host. When a single spot of dodder appears destroy it at once, right where it is. Any attempts to move the mass to a more convenient place will scatter the seeds around. It never seems to hurt the alfalfa roots to burn the dodder off. A few sacks of dry strawy waste and a can of crude oil are hauled out on a truck. The dodder spots are covered with the straw and a little oil is sprinkled over the top and then the whole mass is set on fire. This daily work of destroying the spots with fire should be carried out until no more spots of dodder can be seen. Do not leave it until next week, but do it at once.

### Yellow Butterflies.

The hosts of little bright yellow butterflies toying and flying over the green alfalfa fields and the smaller brown ones dancing around with them are charming to see, but do not ac-


**Anthrax Cure, Milk Fever Outfits** See O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.

**Cured pulp from Los Alamitos Sugar Factory silo at $1.00 per ton.**

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ABSORBINE, JR., (mankind, $1.00 bottle.) For Boils, Bruises, Old Sores, Swellings, Goitre, Varicose Veins, Varicosities. Allays Pain.

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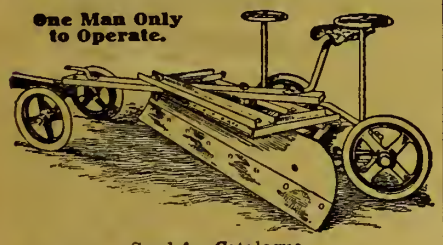

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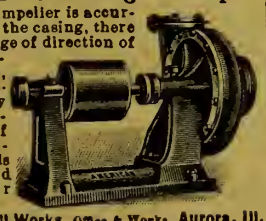

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When writing advertisers, mention Cultivator.

cumulate too many of them for their beauty's sake. The cunning little green worms that make the butterflies eat the alfalfa. When they are numerous the field should be pastured off as the tramping of cattle seems to be the cheapest way of disposing of them.

**Clipping.**

When the new alfalfa plants are about six inches high, they can be greatly strengthened by running the mower over the tops. The clipped tops are dropped down on the ground and act as a mulch around the young plants. The clipping strengthens the plant and causes it to stool out more broadly. Disking of the alfalfa comes when the field is two years old. This again tends to thicken the stand by splitting the crowns into two, three or four pieces. The disks should be set up as straight as possible to secure the down-cutting without any off-slicing of the crowns. When the foxtail is three or four inches high the seed will have all sprouted and no new seed formed. Then is the time to disk it down, choosing, of course, a time when the ground is not too wet, but when it will turn up friable and loose. New seed may be sown at this time and come up readily, or else it may be thought best to give the land a stiff seeding to barley. When this is done, where the stand is considered heavy enough, the result is that a good crop of mixed hay is secured and foxtail held down. The alfalfa comes out clean at the second cutting and while I have never tried this plan, I have no reason to think those who are securing good crops and clearing off the foxtail are not doing well. I use the first crop in the silo so that it does not matter much if there is a mixture of foxtail in it. Foxtail is a rich grass and the butter has a fine flavor when made from it.

**Johnson Grass.**

When an alfalfa field is used for hay the constant cutting after a few years disposes of the Johnson grass. When Johnson Grass is not allowed to go to seed it does not make deep heavy roots. Now the only way it can possibly increase in the mowed field is by allowing a crop to mature seed after the last cutting of alfalfa hay. Watching this point makes it possible to control the Johnson grass perfectly. It has become a common practice to sow infested land to alfalfa to clean it up, before planting the land into vineyards and orchards.—M. E. Sherman.

## BRITAIN IMPORTS LESS BEEF.

Figures issued by the Department of Agriculture respecting American beef exports show whither we are drifting in the trade with our heretofore good customers in the foreign countries, and particularly the United Kingdom. Latest statistics regarding the imports into the United Kingdom during the past year as compared with 1907 show a big decrease in our trade. In 1908 there were imported into the United Kingdom live stock for food to the value of $31,872,168, a decrease of $7,570,800 compared with the previous twelve months, while a total of $50,165,828 of fresh beef was imported, a decrease of $432,145, and this total decrease in the import trade in fresh beef indicates that a considerably increased volume of cheaper beef was received as against the year previous, and it came from other countries than the United States.

American exports of dressed beef into the United Kingdom during 1908 in value were approximately $15,906,641, a decrease of $9,256,000 from the year before, while in our exports of live meat animals a total volume of business of $21,704,590 was noted, indicating a decrease of $7,610,232 from the year before. Thus has the United Kingdom in the year just passed favored the other countries as against the United States in buying the beef and other meats for food. A great portion of the decrease in American live cattle and dressed beef exports was due to the increased trade which the Argentine Republic enjoyed with England and also the favor with which the Canadian beef found sale.

The "Crop Reporter" of the Agricultural department gives interesting statistics relative to the export beef and cattle trade for 1908, as against 1907. Our total exports of fresh beef are shown to have been 156,133,985 pounds for 1908, against 269,411,737 pounds, while the canned beef exports were 17,455,000 pounds, against 22,145,993 pounds in 1907. Our exports of domestic beef and products for 1908 were 579,303,000 pounds, against 687,752,000 pounds in 1906, in which year American exports were the largest on record.—Farmers' and Drovers Journal.

**Cream Separators, all sizes, and prices. O. J. Weber Co., 225-227-229-231 East Sixth street, Los Angeles.**

## IMPORTATION OF MILCH GOATS.

In its issue of November 18th the Cultivator had a communication from Mr. Lobingier on the subject of milch goats, in which he referred to the fact that "It is now impossible to import milch goats from continental Europe." This is true, but the tone of the article might carry the idea that there is no importation of goats from any section to this country, so we quote from a letter written to us by R. W. Hickman in charge of the quarantine division of the bureau of animal industry. Mr. Hickman says: "I beg to advise that you are in error in your impression that there is a strict quarantine against the importation of milch goats into the United States. On the contrary goats may be imported into the United States under similar conditions to those which govern the importation of cattle, sheep, and other ruminants, and swine. They may be imported from Great Britain, Ireland and the Channel Islands. The importation of goats or other ruminants from the orient, or from the counties of continental Europe, is not permitted, on account of the contagious and infectious diseases of live stock which exist in those countries."

Regulation 11 of Order 142 of the Bureau of Animal Industry gives information as to manner of importation as follows: "Any person contemplating the importation of cattle, sheep and other ruminants, and swine from any part of the world except North America, must first obtain from the Secretary of Agriculture two permits, one stating the number and kind of animals to be imported, the port, and the probable date of shipment, which will on presentation to the American consul at the said port of shipment entitle them to clearance; the other stating the port at which said animals are to be landed and quarantined and the approximate date of their arrival, and this will assure the reception of the number and kind of animals specified therein at the port and quarantine station on the date prescribed for their arrival or at any time during three weeks immediately following, after which the permit will be void. These permits shall in no case be available at any port other than the one mentioned therein. Permits must be in the name of the owner of or agent for any one lot of animals. Permits will be issued to quarantine at such port as the importer may elect, so far as facilities exist at such port, but in no case will permits for importation at any port be granted in excess of the accommodations of such port."

From this it will be seen that milch goats may be imported under the same regulations as cattle, which is, in fact, according to the letter of Mr. Lobingier's statement, but it is plain that one may purchase goats in Great Britain, Ireland or the Channel Islands, if he so desires, and bring them into this country.

P. D. Fowler and A. G. Schulz, both passed in the examination for horticultural commissioner of Tulare county. Mr. Schulz has received the appointment from the board of supervisors.

Farmers at Klamath Falls, Oregon, are planting ginseng.

**Do your cows milk hard? Send 50 cents for teat expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

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Any American Fence dealer will quote you figures that may astonish you on fencing your farm with heavy, hog-tight fence. You have no idea how little money it takes, considering what you will actually save.

American Fence is made of hard, stiff steel. It is made of a quality of wire drawn expressly for woven-wire-fence purposes by the largest manufacturers of wire in the world. Galvanized by the latest improved process—the best that the skill and experience of years has taught. Built on the elastic, hinged-joint (patented) principle, which effectively protects the stay or upright wires from breaking under hard usage.

The real test of a fence is the service you get out of it. Test, judge and compare American Fence under any and all conditions and you will find that the steel, the structure and the galvanizing are equal in durability, strength and efficiency to the hardest usage.

F. Baackes, Vice-Pres. & Gen. Sales Agent

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Just arrived from the mills. We are offering this pipe at the lowest prices obtainable on the Pacific Coast. Write or telephone for quotations. Call and inspect the stock. We can cut pipe to any measurement you want. Our carload brass valves just arrived from one of the largest brass works in the East. All first-class new goods. Hose bibb, garden valves, angle valves and globe valves. Two carloads oil well casing, 11⅝, 9⅝, 7⅝, 5⅝. 4, 3½, 3¼ and 3-in casing.

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**Kills Gophers and Squirrels**

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# Small Fruits and Vegetables

## HOW DOES YOUR GARDEN GROW?

THE chances are that you will answer this question by saying your garden grows as well as your neighbor's.

The chances are equally good that neither you nor your neighbors make your gardens grow as well as they might, says a writer in The Farm World.

The truth is that the average farm garden is only given about one-fourth as much fertilizer as the crops would put to good use.

This may seem like strong talk, but it is true. The city market gardener uses fertilizer in a way that would make a farmer anticipate bankruptcy in the immediate future, yet city market gardeners are not the kind of people who waste money.

The quantity of fertilizer which would be enough and to spare on an average farm crop is just a good beginning for a truck patch.

Gardeners often put 100 tons of stable manure on an acre of land in New Jersey and around Chicago and the gardener puts no more than he thinks can be used to advantage.

This feed of fertilizers is repeated year after year, too, on these city gardens, and often commercial fertilizers are used during the growing season, besides the stable manure.

Peter Henderson once said that his rule in using stable manure was to put on enough and then some more, and garden crops will flourish under such feeding too.

Plant a tomato vine on top of a pile of rotted stable manure and watch it grow, if you do not believe this.

For many generations our garden crops have been grown on soil which has been largely made up of manure and other fertilizers and they have acquired appetities such as ordinary farm crops never have.

They are every one gross feeders and the more we feed them the more tender and the larger the plants grow.

It is now too late to talk about plowing into the soil but it is not too late to use well rotted manure or commercial fertilizers on the garden crops.

If manure which has been rotted by composting or lying in the barnyard is scattered over the surface of the garden between the plants and hoed in as the crops are cultivated, it will become immediately available, as the rootlets of the plants will begin to feed on it as soon as it becomes damp and they will make wonderful progress in growth if they have plenty of this kind of feed.

Have a bag of complete commercial fertilizer where you can get at it handily and keep scattering a little of it among the garden plants all summer.

A tablespoonful worked around a hill of strawberries or around a raspberry, currant or gooseberry bush will cause the plants to grow amazingly and bring them to perfection so they will be ready to produce heavy crops next year.

Onions, radishes, beets and all the vine-producing crops respond at once to these little feeds of fertilizer. There is not much danger of getting too much of the elements into the soil if it is put on a little at a time.

It is impossible to use too much stable manure which has been rotted, but one can get too much of some of the commercial fertilizers around a plant at one time.

The best way to use any fertilizer is to scatter it on the surface and immediately work it into the soil.

The rains will wash the fertilizing elements down into the soil where the roots can get at them.

If you do not believe in mid-season fertilizing just try fertilizing a few rows, leaving the remainder as check rows, in order to note the difference. If the season is not a very dry one you will find that feeding fertilizers to the garden is very profitable.

Keep some kind of a crop growing in the garden the entire year. If nothing else is done sow wheat, rye or a vetch on the vacant places to keep weeds from springing up and maturing seed. Weeds ripen in a very short time, if they are allowed.

**Eucalyptus Seeds**

In large or small quantities, 33 kinds to select from. Write for free pamphlet "Eucalyptus Culture." It gives full directions for sowing the seed, raising the plants and planting out into the field, together with descriptions of all the leading species, giving their uses and the localities to which they are adapted. Sample packets 15c each, 2 for 25c, 4 for 50c, 9 for $1.00. Choice Flower, Garden, Tree and Palm Seeds, Roses, Flowering Plants etc. Catalogue mailed free upon application.

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**Los Angeles, Cal.**

**CRIMSON WINTER RHUBARB**

$1.50 per Dozen
$6.00 per 100
$40.00 per 1000

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Berry Plants of All Kinds.

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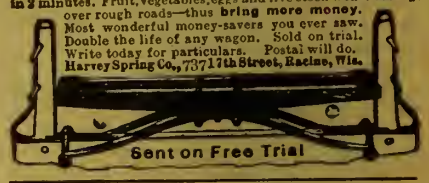


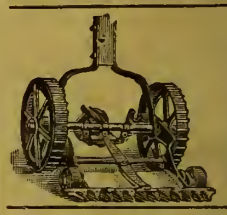

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Many a man passing a farm home made lovely by trees and shrubbery has been lifted up above the sordid conditions which surround him and has immediately commenced to transform his own grounds in keeping with those of his neighbor. And so the gospel spreads.

The inside of the house soon reflects the charm of its exterior. When good taste and proper ideas of planting are displayed outside, it does not take long for the same ideas of artistic effects to control those who have the interior beautifying of the home at heart.

Children grow into better men and women when raised in a home surrounded by the beauties of nature. A feeling of pride causes every one of the household to take an interest in keeping the grounds in good condition.

A poor farm with good buildings on it will often sell for as much as or more than a good farm containing poor buildings. In just the same way a farm with its home grounds planted in the way we have suggested will bring a much higher price than one about which there is an air of neglect and indifference to beautiful surroundings.

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### THE PIPE CALABASH.

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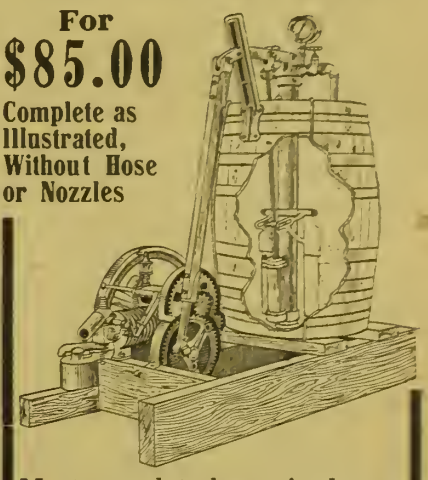

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# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California. as Second-Class Matter.

Thursday, December 23, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

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WHEN DADDY LIGHTS THE TREE, Cover.

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## Cotton Again.

IN A RECENT Cultivator we referred to the extensive planting of cotton over the Imperial Valley and suggested care that no mistake be made in unduly boosting so that the uninformed should be led into planting without knowing the requirements of the crop. Touching upon the points brought out in the editorial J. W. Jeffrey says in his department in the Los Angeles Times: "The good old conservative and reliable Cultivator expresses editorial fear that the people of Imperial are liable to carry cotton to excess because of the success with this commodity last season. The warning is well-timed. Where nature has been most prodigal with her favors there agricultural achievement is most liable to run riot; there profusion is more liable to prevail than stint. * * *

"The American farmer has been set down as conservative. He is in leaving off old methods and trying new ones clear through to the consumer of his products. But he is prone to follow the multitude in what he plants for a living. That is what makes the multitude itself, and it makes mortgages and other modern contrivances of destruction.

"Why go into a delirium of expectation that may end in the stupefaction of experience? Andrew Carnegie said to "put all your eggs in one basket and then watch the basket." But Andrew was given the power to take every one by the collar who came his way and compel a deal in eggs on the terms imposed by the owner of the basket. Until the Imperial farmers reach the happy Carnegie state, they should continue to grow alfalfa, fruit, melons, hogs, cattle, cotton and Egyptian corn and everything else that will diversify the natural resources of that magnificent empire, for in that policy will repose conservative progress, safety and the final stability of land values."

But our good friend the Calexico Chronicle feels that we have a wrong impression of the vastness of the great Imperial. It says:

"The California Cultivator seems to have the impression that the entire Imperial Valley is about to be plowed up, the cattle sold and even the square yard that Heck, the pup, occupies with a kennel, is to be planted to cotton. It is possible to plant 200,000 acres that have never yet seen the edge of the disc; that the irrigated portion of Imperial Valley today is four times larger than the irrigated portion of Riverside county; that 25,000 acres of cotton would be only a small portion of the acreage, and finally, that farmers have no intention whatever of discarding everything else and going into cotton."

All of which is true and we glory in it. And still we say, let all keep their heads level.

## Knockers.

WE NOTE that some papers of the state take exception to the attitude of the recent State Fruit Growers' Convention in favor of discouraging production until markets are found for the fruits which have been over-produced, or at least produced in such quantities that they have not proved profitable to growers for the past year or two. The papers which complain about this "knocking" of California, maintain that it injures the state because California is built up by encouraging people to come here and take up the production of our wonderful fruits. But no matter how much we may wish these people to come and develop the state, it is worse than folly to shout prosperity where there is no prosperity. Producers of some lines of fruits have taken up marketing and advertising and won great profits. Let the growers of peaches, grapes and other lines which now appear to be overproduced take up similar efforts, and when the same profitable result is attained, then let them encourage others to take up similar lines of planting.

We do not believe a single attendant at the convention wished to bear the price of fruit land or discourage others from buying such land, but blinding our eyes to the true situation will in no way advance the industry. Therefore, let every thinker squarely face the problem, and let us all endeavor to solve it, to the end that our products may be handled so as to bring profit to the producer. When that is accomplished, all the knocking that can be done will not bear the price of fruit lands. Money talks louder than any knocker possibly can.

## A Decade.

MR. EDGAR F. HOWE, Editor of the Imperial Daily Standard, and a pioneer in the Imperial Valley, announces that he is about to issue a history of the first decade of the great Imperial Valley. Mr. Howe has been a resident of this valley most of the time since the stakes were first set there, in fact traversed it many times before a drop of water was ever carried to it. It is fitting that such a great empire should have such a worthy historian. Imperial Valley has been the wonder of the world in the development line, and the placing in permanent form of the history of its first ten years will preserve information of great value in later years.

## League of Fruit Growers.

At the recent State Fruit Growers Convention resolutions were passed calling for the appointment of a committee for the purpose of forming a league of fruit growers, the committee to consist of ten growers chosen from the independent shippers, the fruit distributors and the growers. The appointment of the committee was left in the hands of State Horticultural Commissioner Jeffrey, and he announces the following committee: J. P. Dargitz, Acampo; George H. Cutter, Sacramento; R. D. Stephens, Mayhews; George D. Keilogg, Newcastle; C. H. Rodgers, Watsonville; F. B. McKevitt, Vacaville; B. F. Walton, Sutter county; H. A. Fairbank, Lodi; Howard Kerchival, Lower River district; H. V. Pickstone, Santa Clara county. The committee will meet at an early date after the first of the year, and it is presumed a convention of fruit growers will be called within the next sixty days.

## Hall of Fame.

THE CULTIVATOR received an invitation to attend the ceremonies at the installation on December 15th of the name of Cyrus McCormick in the Memorial Hall of the College of Agriculture of the University of Illinois at Urbana. The invitation comes from the Commission of Illinois Farmers' Hall of Fame. We think this a worthy movement on the part of the farmers of Illinois to honor those who have advanced agriculture. It is a result of a desire to record the services and commemorate the lives of the great leaders of the state in the development of agriculture from a pioneer art to a civilized science.

The hall is situated in the College of Agriculture grounds at the State University, and each subject chosen will be represented by a painting and tablet reciting in brief his contribution to the evolution of agriculture. Other names chosen to honor the Hall of Fame are: James N. Brown, first president of the State Board of Agriculture of Illinois; Isaac Funk, pioneer farmer, and Prof. J. B. Turner, originator of the idea of the national system of land grant colleges.

## Be Fitted for Your Calling.

MR. J. B. NEFF in addressing the Farmers' Week audience at Davis the last of October, made the remark that one great defect of the farmer was his lack of education or of information as to his own calling. The lawyer, the doctor or the business man would never think of taking up his profession without long and complete preparation. Years are spent in schools and colleges before he begins the practice of his life work, but the farmer presuming upon the wealth producing power of his farm takes up his business after attending a school which has not aimed to fit him for farming, any more than for the practice of law, and with no preparation other than a stock of simple good sense. No other calling on the face of the earth could make enough money for those engaging in it to keep them from becoming bankrupt.

Even the institutes, farmers' weeks and other educational opportunities are given slight attention by the rank and file of farmers. The Farmers' Week at Davis called out extremely small audiences. Farmers' institutes are often better attended, but seldom crowded unless local committees organize to bring the people out.

Mr. Neff's idea was that the farmer's education should begin with the youth. He should be taught thorough respect for his calling and should fully master the science of the particular line which he expects to take up. Then he should so conduct his work as to do away with the long hours that have made the farm a place of drudgery.

The agricultural schools are coming. Support them and demand more of them till our needs be met.

## A Resourceful Worker.

The man on the farm more than any other of our citizens today is called upon continually to exercise the qualities which we like to think of as typical of the United States throughout its history—the qualities of rugged independence, masterful resolution and individual energy and resourcefulness. He works hard (for which no man is to be pitied), and often he lives hard (which may not be pleasant), but his life is passed in healthful surroundings, surroundings which tend to develop a fine type of citizenship.

In the country, moreover, the conditions are fortunately such as to allow a closer touch between man and man than too often we find to be the case in the city. Men feel more vividly the underlying sense of brotherhood, of community of interest.—Theodore Roosevelt.

# Agricultural News Notes of the Pacific Coast

## Northern California

Modoc county hogs have proved profitable during the past season.

Plows are busy in nearly all the grain fields of the Sacramento Valley.

A big alfalfa meal mill to be located at Meridian, Sutter county, is under contemplation.

Officers of the United States army are buying horses in Sutter county for cavalry purposes.

Many dredgers are busy in the neighborhood of Sacramento reclaiming thousands of acres of rich land.

The board of supervisors of Sonoma county has appropriated $250 for advertising the resources of that county.

Olive picking and crushing has begun in Butte county. One company alone has 400 men picking in the orchards.

Two petitions for the formation of reclamation districts have been filed with the Sutter county board of supervisors.

The board of supervisors of Colusa county has petitioned Congress for $400,000 for improvement of California rivers.

The Hayward Review reports striking of strong vein of water which will greatly improve agricultural conditions in the Castro Valley.

Modoc county irrigators propose to take up the matter of protecting the rights of owners of land in that county to the waters of Clear Lake.

Glenn county's school fund will receive $446.94, the county's share of receipts from grazing permits in California National Forest for the year 1908.

A correspondent of the Sacramento Bee asserts that federal laws if properly enforced will entirely prohibit damage to navigable waters from dredge mining.

The Petaluma Poultry Show last week had a large list of entries from all over the state. Entries from Sonoma and adjacent counties were reported especially fine.

The Poultry Show closed at Petaluma last week. Almost every class was well filled with good exhibits. Birds were sent from nearly every part of Northern and Central California.

Hundreds of acres of bottom lands along the Mokelumne River in San Joaquin county have been flooded. These lands were largely planted to potatoes and the crop has been seriously damaged.

Two wool sales were reported recently at Red Bluff, Tehama county, at which about 100 bales were sold at about thirteen cents. There are at this time stored in Red Bluff over 30,000 bales of wool.

Director Newell of the Reclamation Service has written the Oroville Register regarding rumors as to high prices paid for certain canals and water rights in Oregon, and says that the prices paid were approved by the property owners before they were accepted by the governmnt.

## Central California

Watsonville has shipped 3166 cars of apples to date.

Over 7000 tons are now signed up in the raisin pool.

Visalia is talking up its advantages as a walnut producing section.

Nurserymen over the valley are planning for a big planting season.

The farmers institute at Tulare last week was given a splendid attendance.

Last week's storm held up the orange packing in nearly all packing houses.

Tulare county citrus growers are greatly pleased over the returns for oranges this season.

Glanders contracted from a diseased horse has been the cause of the death of one farmer near Porterville.

The question of organizing a new agricultural fair association is being discussed at Hanford, Kings county.

Corcoran held an interesting institute last week, one of the features of which was the cattle judging contest.

High water washed away a bridge in Tulare county and did considerable damage during the storm of last week.

The fruit exchange packing house at Sanger, Fresno county, packed grapes and shipped them up to last week.

A raisin grower at Parlier, Fresno county, reports the record crop of thirteen tons from three acres of vines.

The early and liberal rains have given promise of the biggest grain crop over the San Joaquin Valley in many years.

A subdivision of a large tract of land under the Turlock irrigation ditch will place about two thousand acres in small farms.

No bids have been received thus far for raisins which are thrown in one pool by an agreement of many growers of Fresno county.

Green fruit shippers at Fresno are petitioning Secretary Wilson to send to that section experts who will determine cause of fruit decay.

The horticultural commission of Fresno county reports that the peach growers are not spraying as much as they should to prevent blight.

The Bakersfield Echo says that many orange growers in that vicinity are netting $500 per acre on their holiday fruit shipped this year.

One large ranch known as the Tagus Ranch near Visalia, which produced many tons of beets last year will be given over this year to the production of barley and wheat.

The record price for a car of Emperors sold in Chicago was won by a car shipped by the Fresno Fruit Growers Company from the Wahtoke district. The car commanded $2200.

Mr. A. G. Schulz, the new quarantine officer of Tulare county, has secured from the state horticultural commission the establishment of a quarantine which it is hoped will aid the fruit growers of that county in keeping out pests.

## Southern California

Riverside orange growers held one of the most instructive citrus institutes last week.

Lemons are moving forward as rapidly as cut from the trees. Prices have been very satisfactory.

Colton bee keepers are planning for a big meeting at their bee keepers institute December 28 to 29.

A quarter of a million dollars has already been divided among the members of the first lima bean pools.

The lemon exchange at Cucamonga has just occupied its new packing house, one of the finest in the country.

A large number attended the farmers institute held at Coachella last week and a most interesting program was provided.

Oranges from Yuma, Arizona, are being sent to Los Angeles for decorating the Southern Pacific offices for the holiday season.

The weather bureau has determined to establish two sub-stations in the Imperial Valley to gather information as to temperature.

The Anaheim fruit growers exchange reports that not a single member has withdrawn from the organization during the past year.

The bean growers association is becoming stronger every day, one grower recently signing up with over 12,000 sacks to add to the pool.

Southern California fruit shipping points have developed a new line this year in shipping dried and canned fruits to various European ports.

In some sections of Southern California, the gathering of holly in the past has been so strenuous that the supply has been greatly decreased.

E. F. Howe, editor of the Imperial Daily Standard, is contemplating the publishing of the complete history of the Conquest of the Colorado Desert.

The president of the California state organization of the farmers' union delivered an address at the fair held at El Centro, Imperial county.

Ranches at Ioamosa, San Bernardino county, are constructing a storm water drain to care for storm water which has done much damage in the past.

Redlands packing houses have their picking gangs gathering the earlier fruit. The gang picking plan is becoming compulsory with many of the shippers.

The county farmers union met last Saturday at Indio. Other meetings in the interest of the organization were held at Mecca, Thermal and Coachella last week.

The Stewart Fruit Company is planning to erect a packing house at San Fernando, equipped with all modern facilities for handling both citrus and deciduous fruits.

The State Polytechnic School at San Luis Obispo offers a series of short courses extending from January 5, to 29. General dairying, dairy manufacturing, and poultry husbandry will be considered.

## The Coast

Lewiston, Idaho, oat producers are securing $1.35 per bushel.

The Twin Falls, Idaho, Poultry Association, held its annual show last week.

The heaviest snow storm in years recently visited all parts of Western Oregon.

The next Idaho State Dairy Convention will be held at Caldwell, Jan. 10 and 11.

The Oregon State Dairy Association held its annual session in Portland last week.

Oregon won the grand prize for the general educational display at the A-Y-P Exposition.

Four thousand acres of land were thrown open to entry near North Yakima the first of this week.

Owing to unfavorable season, the seeding of winter wheat in Eastern Oregon is lighter than usual.

The Washington Association of Livestock Breeders will hold its annual meeting in Spokane, Jan. 4 and 5.

One hay buyer at Ellensburg, Washington, has cornered the hay in that market and is now demanding $22 per ton.

Fruit growers on the Clarkston Flat near Asotin, Washington, have combined for mutual benefit in marketing fruits.

The Y. M. C. A. of Portland, Oregon, is conducting a class in poultry under the organization called Portland Junior Poultry Association.

The management of the Inland Empire Poultry and Pet Stock Association promises a thousand entries at its second annual show at Spokane, Jan. 11 to 15.

At the recent meeting of the Oregon State Horticultural Society, walnut growers had a warm discussion as to whether seeded or grafted stock are to be preferred.

Hardware men in Boise, Idaho, have endorsed the proposition of Senator Borah for the issuance of $30,000,000 worth of bonds to complete irrigation projects.

The Spokesman Review of Spokane says that the poultry industry of that section must be fostered and more poultry produced in order to stop the sending of vast sums to the Middle West.

The convention of members of the farmers union at Moscow, Idaho, recommended the establishment of a central agent for the furnishing of daily market reports to agents and individual farmers.

The Educational and Co-operative Union in its session at Pullman, Washington, rescinded its acceptance of proposition to hold its next convention at Colfax, because of that town voting to retain saloons.

The management of the National Apple Show held for two years at Spokane, is discussing as to whether the next show shall be held in that city or transferred bodily to Chicago or some other Eastern city for the sake of the additional advertising to be secured.

# West Coast Egg Food

***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90. 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

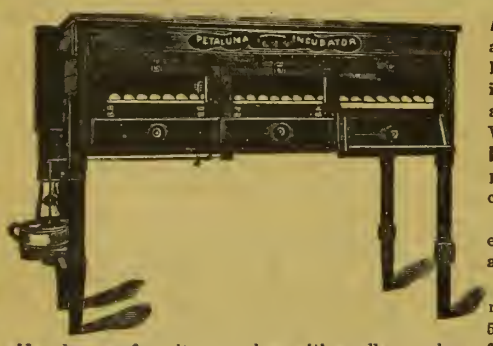
$2.60 FREE. If you will send us the addresses of ten persons who have any fowls, we will send you, post-paid, our Biddy Booklet and an article worth ten cents, which many say no household should be without. If you will send us twenty-five addresses, we will also send you The Poultry Manual, profusely illustrated, by those high authorities, F. L. Sewell and Ida E. Tilson, a reliable work worth fifty cents, but free to you. For 100 addresses we will also send free, and expressage prepaid, another most useful article which sells in the East at $2. We merely want to send to them, by mail, some advertising matter, but your name will not be mentioned in connection with it in any way.

## West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

## Petaluma Incubators and Brooders

***Awarded GRAND PRIZE at Alaska-Yukon-Pacific Exposition, Seattle, Wash.; Two First Prizes and Silver Medal at the late California State Fair***




***Petaluma Poultrymen*** in accordance with their aim of attaining the highest degree of efficiency have steadily selected ***Petaluma Incubators*** and ***Brooders***—the Standard of the World.

We have equipped all the big poultry plants and have several contracts to complete before January 1st, 1910.

One firm of poultrymen has 47 504-egg Petaluma Incubators giving a capacity of 24,000 eggs at one time.

We also have contracts to equip a number of plants with from 10 to 20 504-egg ***Petaluma Incubators,*** besides dozens of poultry ranches with smaller numbers of machines.

***Winners of More Prizes Awarded by World's Fair Judges Than Any Other Make***

We have stated before and we ***again*** state that more Petaluma Incubators and Brooders are used than all other makes combined in Petaluma and all that great section of the country west of the Rocky Mountains, which is more than one-third of the entire United States, and the Petaluma is fast reaching a similar position among Eastern poultrymen. As rapidly as its merits become known does it supplant all other kinds.

## Midland Poultry Feed

Is the best ground mixed feed and hundreds of the successful chicken raisers use no other. Ask for it and take no other.

## Petaluma Incubator Company

**Petaluma, Cal.** **Indianapolis, Ind.**

Our General Agents for Incubators and Brooders and Midland Poultry Food:

**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**

## *SINGLE COMB WHITE LEGHORNS*

The first essential to success in the poultry business is that the foundation stock or eggs be purchased from a reliable breeder, one who has made a success of the poultry business from the fact that his stock has proven to be the **Business Hen.** Such stock or eggs we now offer you and stand back of our sales. Prices for stock on application. Correspondence solicited.

Eggs—$1.50 per 15, $7.00 per 100 and $60.00 per 1000.

***Stuhr-Williamson Poultry Company***

*Home Phone 1490* *W. C. SUITS, Prop.* *378 Bandini Ave., RIVERSIDE, CAL.*


# Profit in the Poultry Yard

We solicit short articles of a practical nature from the farmer and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

### THE LOWLY HEN.

I'm for the hen, the lowly hen;
She lays an egg today and then
Tomorrow goes about her biz
And where her nest of rubbish is
Lays us another. Cluck on cluck,
Day after day with endless pluck;
Happy if in solitude.
She may at last hatch out a brood
Of fluffy chicks with yellow legs,
To become hens and lay more eggs.

She knows no holiday at all,
Nor Sundays. At the clarion call
Of Mr. Rooster, with a lurch,
She lunges down from off her perch,
And, once upon a footing firm,
She goes to hunt the early worm.
She takes a worm, a piece of grit,
A bug, and makes an egg of it
That will pass muster until met
In scramble, fry, or omelet.

Egg after egg, day after day,
In unobtrusive cheerful way,
And, when her laying day is done,
She lounges not in shade or sun,
But with a rush that rest doth mock
She lays her head upon the block,
And, the piece de resistance of
Some boarding house feast, shows her love
For humankind in death. Brave hen!
Example for roosters and men!
—Judd Mortimer Lewis in "Collier's."

### EGG EATING IN FLOCK.

AT THIS TIME of the year many of the pullets have already begun their laying. Yet a very great, if not the greatest number, are yet to begin. It would not be too late we think to make a timely suggestion, especially to those persons experiencing their first year in raising chickens and also those who have made considerable increase in the number of chicks raised this year.

Provide nests for your pullets which they can use as they come to laying maturity. Don't just put boxes around in the yard, hen house or wherever it may be, as I have noticed done at times. Have something more like a nest with soft straw, hay or whatever it may be on the bottom, so that the eggs are not liable to be cracked and broken as laid. Your failure to do this will be apt to get your pullets started in the egg eating habit.

Once they have acquired that habit they are practically worthless as layers. It is contagious. One offender can start the whole pen or flock. They seem to let each other know in some way so that it spreads from hen to hen and yard to yard if you have them separated.

An egg is broken. They taste and learn how good it is to eat. First thing you know they are breaking them. Eggs laid outside of nests or in such open nests that they are easily gotten at will often tempt the hens to peck at them. If the shell is not strong and breaks, the egg will not remain uneaten. It is often difficult to detect that eggs are being eaten by hens. It will take very close watching to discover the habit some times. Then again you may see the evidence in nests where they have not been able to make a clean job.

It is far wiser and easier to prevent the egg eating habit, for rarely can you break it once started. That has been our experience. We have worked day after day trying all kinds of remedies: placed china, or glass eggs, handy for they to pick at; cut their beaks; removed white and yolk, filled shells with red pepper, mustard, aloes, etc.; built special nests so that eggs would roll out of sight after laid, and other things without success in stopping it. Then we tried to gather eggs oftener, but the egg eater preceded us many times. So we finally came to the conclusion the the axe or off to the market was the best way to treat the egg-eaters. They got started with us because proper nests had not been provided which they could use as they began laying.

It is best to have your nests up off the ground and so made that eggs will not be in the light when in nest. An ordinary box can be used. Nail piece across top on one side or end about one-fourth or one-third size of top. Then set the box with that side or end on a broad shelf so that opening is toward wall, allowing space for hen to get in between wall and box. Such a nest need not be nailed fast to shelf but can be turned when you take eggs out or removed to clean, The strip that you nailed on will keep nesting material in.—Henry Langenschwadt, San Jose.

### POULTRY QUERIES.

**Partridge Rocks.**

Is the Partridge Rock a new breed? From what source do they derive the red?—L. B. S., Fair Oaks.

Partridge Plymouth Rock is a new breed and generally accepted as single comb sports from the Partridge Wyandottes, which were made from the Partridge Cochins, Golden Laced Wyandottes, and Golden Hamburg crosses.

### FEEDING LAYING DUCKS.

It should be the aim of those who require early ducklings for the market to have stock birds in full lay by the end of October or the first of November.

In order to accomplish this, the feeding during September and October must be carefully attended to and a nutritious rather than fattening food provided for the birds. By this time last year's ducks should have quite overcome the moult, and should have their full complement of feathers.

As far as possible an abundance of exercise should be allowed the birds, and this can only satisfactorily be arranged when a free range is provided. The chief danger of confining them is that under such conditions they are liable to add on flesh too quickly, and on no account should stock ducks be fat.

The difficulty can, of course, be overcome by feeding very sparingly upon somewhat bulky foods.

Two meals a day will be found quite sufficient, one first thing in the morning, and the other about 3:30 or 4:00 in the afternoon.

Soft food should be provided for the morning meal; and a mixture during this and the succeeding month, which we have employed with success, is two parts of middlings, one of barley meal, one of bran and one of brewers' grains.

At first there may be a slight difficulty in persuading the birds to eat the last mentioned, but they speedily become accustomed to the flavor and eat it readily.

A mixture such as this will keep the ducks in good store condition, and will assist egg-production at the proper time. No hard or fast rule can be laid down as to the actual amount of food to be supplied, as this varies with the breed, and the conditions under which the birds are being kept, and with the season.

The only thing to do is to periodically examine them, and, if too fat, reduce the quantity of food; if too lean, increase it

The mash should be given to the birds not in a sloppy, but a crumbly, moist condition. In the former state too much unnecessary water has to be taken into the system.

The soft food should always be supplied warm.

For the afternoon feeding either hard grain or mash may be supplied. Personally I prefer the latter, but many breeders are in favor of the former. Should grain be provided,

**Feed your Chicks**

**Coulson's**

**Special Dry Chick Food**

and watch them grow.

Compare it with other chick foods on the market and see the variety of clean wholesome grains and seeds it contains.

Free samples and descriptive booklet on application to

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PETALUMA - - CALIFORNIA

**Germain Seed & Plant Co.** Distributing Agents for Southern California.

**DEFENDER INCUBATORS**

will insure successful hatches every time. No. O Incubator, 100 egg capacity costs less than $12.50. Freight paid to your station.

Send for our catalogue it explains why Defender Incubators are best.

**Defender Incubator Co.**
Dept. D, Livermore, Cal.

**CROLEY'S**
**High Protein Meat Scrap**

Just what the name implies.

**A Meat Scrap High in Protein**

Not tanned nor embalmed and thoroughly digestible.

Manufactured by

**Geo. H. Croley**
Poultry Supplies
631-637 Brannan St. San Francisco. Cal.
Obtain it from your dealer, or order direct.

**GEESE**

***Toulouse*** ***Embden***

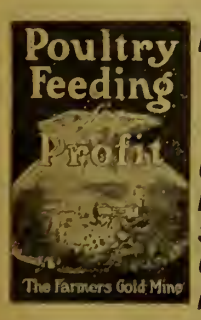
Prize winning stock never beaten at any poultry show.

***$1.50 Per Setting***

Fine Toulouse Ganders for sale at $4.00 each.

Send your order at once for the best stock in the west.

**T. B. C. Sielcken**
CALISTOGA, CAL.

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on application to

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***WINSLOW'S REDS***

As winter layers cannot be surpassed. Stock for sale at all times. Write for Winter Mating List.

**DR. CHAS. E. WINSLOW**
Proprietor
Bx 368 Cor Charlotte and Greystone, Monrovia, Cal
Send stamp for Club Standard.


oats are the best for the purpose, which should be scattered upon the drinking water.

Good sample oats must be used, as otherwise there is too much husk. If mash is employed—and the two may be fed on alternate days—the same mixture as that for the morning feeding will answer well.

If the birds are becoming rather too fat, the proportion of bran should be increased, and the barley meal decreased.

The soft food should always be fed from a trough, otherwise so much is trampled on and made unfit for consumption.

A little lean meat is very beneficial for stock ducks, and should be mixed with the morning feed for mash. Granulated meat, or butcher's refuse, boiled and chopped up, answers the purpose admirably.

The latter gives equally as good results as the former, and is considerably cheaper. Green food should be given liberally to the ducks when they are kept in confinement, those at liberty being able to obtain sufficient for themselves.

When green food is scarce, turnips, swedes, mangels or potatoes form an excellent substitute.

The ducks at liberty can of course procure all the drinking water they require for themselves, but those in runs must be well supplied.

It is unadvisable to allow them to drink a large quantity immediately after eating, as this causes a large portion of the food to pass straight through the body.

Half an hour after they have eaten, however, they may have all they want.

## KILLING AND DRESSING FOWLS.

All fowls should be fasted from 24 to 36 hours before killing. Where this is not done the food decomposes in the crop and intestines. The result is that the flesh becomes tainted and does not keep well.

There are two methods of killing that are considered proper. One is to kill by bleeding in the mouth. This is done by inserting a sharp knife and cutting the veins just below the ear on both sides of the head and then sticking the point of the knife through the brain.

If this is done in a proper manner it will have the effect of loosening the feathers.

The other method is by pulling or wringing the neck. This is done by taking the chicken in the hands, stretching the neck, holding the crown of the head in the palm of the hand and giving a turn backward and at the same time a steady pull.

The head will sever from the neck, leaving only the outer skin. This method is favored by some, but owing to the blood clotting in the neck a discoloration takes place, and where the chickens are placed in cold storage this is a serious objection.

After the bird is killed plucking should begin at once. Care should be taken to keep the head downward to allow the blood to drain out of the body.

Where the birds are allowed to become cool before being plucked, it is very hard to avoid tearing the skin, and the plucking is much more tedious.

Two inches of feathers should be left near the head. A cord is suspended from the ceiling, on which a medium size nut is fastened. This cord is looped around the legs and the nut passed over the cord next the legs. This will hold the bird in place without tying.

After the bird is killed, a sharpened S-shaped wire is inserted through its bill. On this is hung a small pail which serves to hold the bird in place and catches the blood.

The pail should be filled one-half full of water to add weight. After the chicken is plucked it may be placed on a shaping board. This gives the chicken a compact appearance.

If chickens are hung up by the legs after being plucked, it spoils their appearance, making them look thin and leggy.—Farm World.


RANCHO MIRASOL
**WHITE LEGHORNS**
Eggs, January to July. Order NOW.
CARL C. CURTIS, Owner
Lincoln Ave. & Ventura St., Pasadena, Cal.

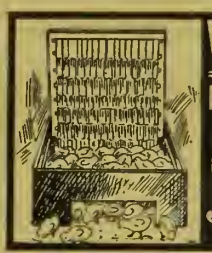
***White Leghorns***

***A Standard Strain of Great Layers and Great Winners***

None superior. Prices reasonable. Booklet descriptive of our stock and farm, containing recipe for mixing the best and cheapest egg-producing mash, sent free for stamp. Eggs, stock and baby chicks for sale. Also a grand lot of cockerels.

On a separate farm, we have an extra fine lot of Buff Orpingtons, from which we can furnish stock, eggs and baby chicks at popular prices.

***Model Poultry Farm***
***Irvington, Alameda County, California***



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PRODUCES STRONGER, HEALTHIER CHICKS THAN ANY HEATED BROODER
FULLY GUARANTEED
NO LAMPS. NO OIL BILL. NO DANGER OF FIRE
WRITE FOR ILLUSTRATED BOOKLET AND DELIVERED PRICES
Coulson Co. Gen. Sales Agts Box C. Petaluma Cal.

***MRS. C. D. HUBBARD'S*** ***WHITE WYANDOTTES***
Eggs for hatching September 1st '09. Write for circular.
***BOX 60, ROUTE NO. 1*** ***SAN FERNANDO CAL***

**1030 Chicks From 1047 Eggs**

IN three hatches. That's what G. W. Ormsby, of Pierpoint, Ohio, did with a Standard Cyphers Incubator. He don't claim to be an expert—just a practical, money-making chicken-raiser. But he insists on the best hatcher.

**Cyphers Incubators**

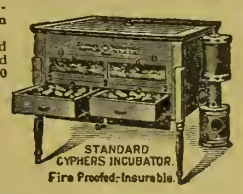
are used by more Government Experiment Stations, more leading Agricultural Colleges, more well-known Fanciers and Practical Poultrymen than all other makes combined.

Hot-air heat—no tank-troubles—a genuine non-moisture incubator. Self-ventilating. Self-regulating. You can get Cyphers Patented features of superiority in no other machine.

Cyphers Incubators and Brooders are guaranteed to you—you have 90 days—4 hatches to prove their superiority.

Write today for our big, handsome Catalog for 1910, describing Cyphers Incubators, Brooders and Poultry Supplies.

Address Nearest City.




CYPHERS INCUBATOR CO., Department 46,
Oakland, Cal.; Buffalo, N. Y.; New York City, N. Y.; Chicago, Ill.; Boston, Mass.; Kansas City, Mo.

**Buff Orpingtons** Did you know that **Sullivans'** "Commonwealth Strain" won the **Highest Honors Ever Accorded a Single Variety** in competition at the late State Fair? They did. We also won three out of five First Prizes at the late World's Fair show at Seattle, also best display. At San Jose show Nov. 13 we won eight of a possible 15 class ribbons, three out of five **First Prizes, Silver Cup** for **Best Display** and **Seven** Club Specials. Our show record has been climbing steadily for 10 years; our prices are no higher. Write for record and prices of stock.

**Mr. & Mrs. W. S. Sullivan**
**GARDEN VALLEY POULTRY YARDS**
5 minutes from depot. **Agnew, Cal.**
State V. P. Nat. S. C. B. O. Club for Cal.

**"Chicks Well Hatched are Half Raised"**

***CHICKS***

White and Brown Leghorns especially.

Other breeds hatched to order only.

***S. C. White Leghorn Chicks from pure bred, vigorous, healthy stock having free range. Are heavy layers. 100 chicks $12.50. Lots of 300 or over $12.00 hundred.***

***San Jose Hatchery***
***Henry Langenschwadt*** ***San Jose, Cal.***

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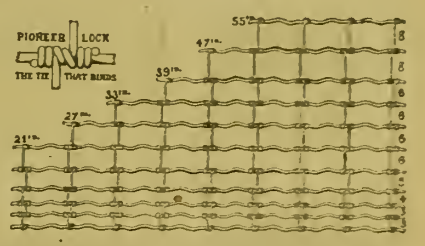
Complete and authentic mailing lists of farmers on Pacific Coast. Prices right. Lists guaranteed on money back plan. Any other list you want. Only reliable Coast lists.

**R. OPPENHEIM,** 268 Market Street, San Francisco, Cal.

**Kokomo Hog Field Poultry Fence**




The Standard of all makes. Square and Diamond Mesh Fences for all purposes. Made of heavy, non-rust, self-regulating steel wires. Absolutely hog tight and stock proof. Write us for catalog and prices.

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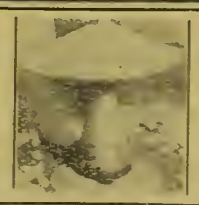
MADE IN PETALUMA
GUARANTEED
SOLD EVERYWHERE



**The Arenberg Brooder Heater and Stove**

Perfectly simple, safe and cheap. Burns distillate, furnishes steady, free flame and easy to manage as brooder, heater or stove. Write for details. **H. F. ARENBERG**
**Petaluma, Cal.**

**1000 Laying Hens**

$9.00 to $15.00 per dozen. This week we have 28 varieties of fowls on hand. Trios, Cockerels and utility birds in flocks of hundreds. Largest dealers in laying stock on the coast. Wanted—10,000 eggs for our Mammoth Hatchery. We hatch the finest chicks in the world.

**P. COOK, 3017 So. Main St., Los Angeles, Cal.**

**Mammoth Bronze Turkeys**

The Profit Makers for the Poultrymen. When ready for your new blood write for my prices. Large healthy stock from extra choice matings.

**GEO. A. SMITH, Corcoran, Cal.**


Eggs were quoted in the Santa Rosa market last week at 59 cents, the highest price ever reached there.

Farmers around Sutter are pleased with the prospect of having a new creamery installed at Yuba City.

## Over 1300 Fireless Brooders Sold Since Mar. 1st

Sold on Free Trial and not a single brooder has been sent back. These brooders are a positive Success. We sell them at the lowest price any fireless brooder is sold at. We can ship chicks safely in them anywhere within 40 hours. Send today for catalogue and price list. We make two sizes, 75 and 150, prices $3 and $5. Also make Out door styles of Fireless brooders at $7. We pay the freight. Write today for catalog.

We Pay Freight

**E. E. McClanahan** 112 East Eighth St. Los Angeles, Cal.

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# PIANOS

**The big Exclusive Piano House will sell during the next Few Days**

## Every Piano at Greatly Reduced Prices

**Sole Agency for the Celebrated A. B. Chase, Fischer, Kimball, Schuman and Other Cheaper Pianos**

☛Almost any make of piano in a Used or Second-Hand Piano at Bargain Prices

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is what it costs you to write to us to send the 1910 illustrated 32 page chick and hatching egg book. Containc poultry lectures entitled "Poultry Pays" and "How to Raise Baby Chicks," articles can be understood by a beginner and are true and straight from the shoulder. These books are FREE. Just write us you wish the book and send the names of five of your poultry friends if you care to. Write today, the sooner you get the book, the quicker you will get the largest, most interesting, "Story of the Baby Chick" ever told.

## *Pioneer Hatchery Company*

***112 East Eighth Street, Los Angeles, California***

WRITE FOR NEW CATALOGUE

## Madary's Supply House

***Is the Largest West of the Rocky Mountains***

***FOR BEEKEEPERS***

All kinds of bee supplies, berry boxes, grape baskets, etc. The best goods and the lowest prices. Personal attention to correspondence and prompt attention to orders.

***Warehouse and Salesroom, 733-9 Aliso St.***
***Phones—Sunset, Boyle 168; Home 41125***

**C. H. CLAYTON, Agent, Los Angeles, Cal.**

# Frost Prevention

## Saving Fruit Crop by Simple Means

With the possible exception of the loss occasioned by insect pests, there is probably noone cause of loss so scriously affecting fruit crops as frost.

**The Bolton Orchard Heater—And Bolton Automatic Frost Alarm and Thermometer**

will positively protect any orchard or vineyard from damage at a very small cost.
For full information and particulars, address

**THE FROST PREVENTION CO. Fresno, Cal.**

ESTABLISHED SINCE 1903


### THE APPLE.

Then let us sing the apple's praise,
And loud the song of triumph raise.
Fall keepers from the cellar, we
May place beside those from the tree.
The Russet, picked by careful man,
Extends its hand to Astrachan;
Or noted Baldwin, kept by you,
Says to the Primate, "How d'ye do?"
The early Harvest, sour and sweet,
Old Cooper's Market come to greet;
While Rawles' Janet, though worthless here,
In lower climes will keep a year.
In 'Old Kentuck," Missouri, too,
Ben Davis heads the list for you.
While down in Arkansas, 'tis said,
They swear by that Kentucky Red.
Old Empire in her hand will bring
That famous Tompkins County King,
Or say to us, "'twill keep you nippin'"
To beat our noted Newton Pippin;
And then for cooking, or an eater,
Rhode Island brings in her "world beater;"
This apple you will surely find
Is known to all the woman kind,
While Ortly, from New Jersey's limbs,
Has twenty-seven synonyms.
The "Blue Hen" also makes us hush,
And holds aloft her "Maiden's Blush,"
Whose name is most appropriate,
And worth—we cannot overrate—
Which in its season "leads the van;"
Go try and beat it, if you can.

—Green's Fruit Grower.

### "PEDIGREED SCRUBS."

This phrase, borrowed from Mr. Hawk, who made use of it in connection with dairy stock, at the recent meeting at the University Farm at Davis, and commented on by the Cultivator of November 4th, is equally applicable to plants. A pedigreed variety, to be scientifically correct, should have known parentage, but the fact remains that any plant breeder may, by crossing or hybridizing, produce a really pedigreed variety which at the same time is worthless for all practical purposes, however much the originator may value it, who is, by the way, very much apt to judge partially.

When the writer, some years ago, used the term "pedigreed" in reference to "selected" or "up-bred" fruits, he was called to account by one of the well known agricultural professors at an Eastern university. It is simply a matter of the coinage and use of some new word to fit the case. Plant breeders are adopting the term "pedigreed" to signify a "selected" type, which has been bred up by nature's process. To make use of the word "select" or "selected" would be meaningless, or at least, capable of very wide interpretation. Prof. L. H. Bailey has written at length on tbe subject in his "Plant Breeding," also Prof. Webber of the Department of Agriculture, and others.

There is no doubt that the term will be, and is, misused, as a catch phrase by unreliable men; that may happen in connection with any calling, coming under the general head of "graft." We don't want "pedigreed scrubs" among our fruit trees or plants anymore than among live stock. Fruit-growers, by noticing and marking any trees that show marked superiority from whatever cause, or of whatever kind, will assist greatly in bringing about a higher standard of excellence in the products of our orchards and farms, and will be cooperating with the field operations being carried on by Prof. Ralph E. Smith in our own state, and by the Department of Agriculture generally. It only then remains for them to insist on the nurserymen propagating from such trees.—Leonard Coates, Morganhill.

### STORAGE AND TRANSPORTATION INVESTIGATIONS.

(Continued from Page 335.)

fornia. The fruit is hauled to the storage rooms direct from the vineyards and held loosely in small field boxes. The growers have learned to handle carefully in picking and culling and the grapes are placed in storage as soon after leaving the vine as possible. The varieties used are Flame Tokay, Muscat, Malaga, Emperor, Verdal and Ferrara. Th first two are held in nice condition for Thanksgiving and the rest for the Christmas market.

#### Transportation Investigations.

The plan of the work consisted [illegible] forwarding a number of crates a[illegible] boxes of grapes, packed under known conditions through to New York where one of the Bureau staff received the fruit and carefully inspected it. This inspection consisted in cutting apart all bunches and segregating the decayed and injured berries and determining the actual percentages by weight on the day of arrival, and three, five, and seven days after arrival. Last year twenty-two shipments were made. This year thirty shipments were put through. In each car there was an experimental series consisting of eight crates or boxes; two were the ordinary commercial pack, two were a careful commercial pack put up either by ourselves or a careful packer working under our supervision. In tbis careful pack we attempted to do nothing more than to be sure that the bunches were carefully culled and placed in the basket without further injury. All the careful packs were put in two-basket crates. Along witb these crates were two boxes each of the same fruit packed in ground cork and redwood sawdust. One crate or box of each pack was placed on the bottom tier of tbe car and one of each on the top tier. In each car, therefore, we had the same fruit handled in different ways, thus eliminating all factors except the handling. This year we have obtained data on tbe equivalent of about 250 crates, or sufficient to place the work on a practical basis.

An examination of the decayed or moldy berries cut from the various lots shows that fully 95 per cent of the decay started at the pedicel or point where the stem and berry join. Tbis is the weakest point of the grape berry and the slightest crack or loosening at that place will allow tbe mold spores to gain entrance and start the decay. With the larger fruits it is comparatively easy to detect injuries and to eliminate tbem; grapes are not only more easily injured but the injuries are more difficult to detect. The necessity for care in handling grapes becomes therefore doubly important, not only in the packing, but in the picking and all handling operations. The handling should be reduced to a minimum, for every time a bunch of grapes is lifted there is liability to injury unless it is done with the utmost care.

It will occur to some that grapes grown under different conditions (soil or otherwise) or from young vines, will vary much in their keeping quality. This is undoubtedly true. Our records, however, are based on shipments made from sandy soil vineyards, from heavy soil vineyards and old and young vines. We have eliminated to a large extent the effect of these factors. Where fruit is tender and more liable to injury, it must be all the more carefully handled. We have had some lots from old vines show more decay than younger and some heavy land fruit show heavier decay than corresponding lots from sandy soils. Moreover, in our carefully handled series and cork and sawdust packs we have used the same fruit and thus are able to show that even the weaker fruits, carefully handled and uninjured will not decay other things being tbe same.

It naturally follows that it will cost more to handle carefully—just how much more it is impossible to say but it will vary with the quality of frult and the season. But will it pay, many will ask. During a season of low prices, at first sight it may seem unreasonable to advocate the spending of more money on packing. That careful handling will pay, and pay well, has been demonstrated again and again in the orange business. We have seen a number of associations and individuals rise from among the lowest priced class to the highest priced class as soon as more care was used in handling, thereby reducing the susceptibility of their fruit to

rot. Increasing the cost of handling a few cents per box, thus insuring sound fruit, has in some cases increased the average return from 25 to 50 cents per box, leaving out of consideration the value of the reputation thus gained. The question now in the citrus business is not how cheaply can the work be done but how well. It has been recognized that cheapness places a premium on careless work. What is true of citrus fruits will be found equally true with grapes. And if the grape business ever gets to the point where the difference of a few cents per crate spent in good handling becomes the margin of profit or loss, it will cease to be a safe business investment.

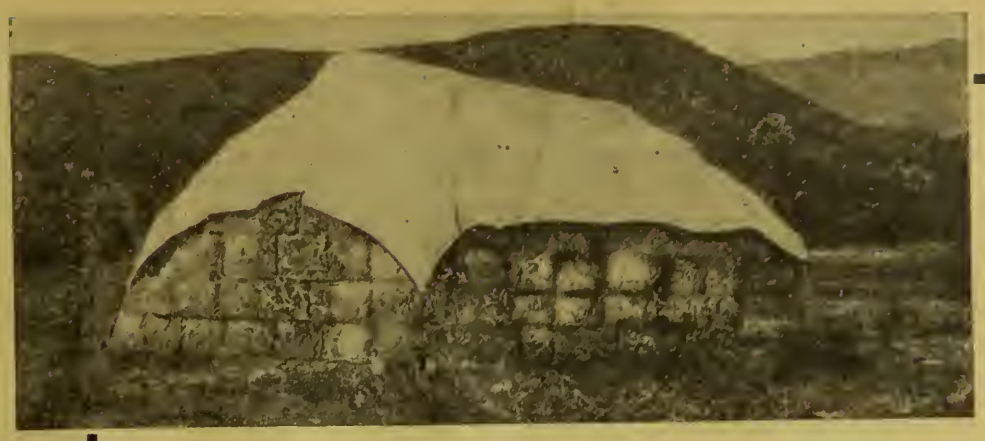
The best answer to the question of whether careful handling is practicable or profitable is shown by the fact that a number of growers are handling carefully and are getting good results. When the marketing problems have been systematized, much better results will follow.

The shipping experiments conducted at Lodi were accompanied by a series of local demonstrations in order that the growers might be able to see the results of the work. A refrigerator car was held at Lodi and kept fully iced during the shipping season. A duplicate of every series shipped to New York was placed in the car and held there until the shipment arrived at destination. The lots were then taken out and placed on exhibition and the growers were thus enabled to observe the differences found in the different packs. Along with these a number of growers contributed crates from their commercial packs in order to be able to judge of their appearance on arrival, and in some instances to determine the kind of work their packers were doing. This campaign of education among the workers has resulted in a marked general improvement in the commercial pack of the district during the season just closed when compared with the season of 1908. The first year that the work was carried on it was not uncommon to find a large part of the decay due to crushed berries on the top of the pack made in pressing on the cover. During the last season this difficulty was largely overcome by using more care in nailing on the covers and by extra cleating.

Our investigations during the past season show that there is at least one mold which has the power, under certain conditions, to penetrate the unbroken skin of the grape berry. This is a species of Botrytis, probably B. cinera, and is undoubtedly the cause of the so-called 'slip-skin" found after the rains. The "slip-skin" is the early stage of the decay and unless every berry showing this is culled out, it will decay no matter how carefully the handling may be done. This disease gives very little trouble before the rains come, but after a rain the crops of many vinepards are practically ruined by it. It is wholly distinct from the cracking of the berries.

It is easy to see that if there were few or no spores of the Botrytis when the rain comes, there would be little or no trouble from this decay. This is a pathological problem, and points to the control of the fungus in the vineyard either by spraying or some other remedial treatment of the vines. The life history of this fungus on the vine has not been fully investigated and until it is, it will be impossible to state the exact means for its control. This is a most important phase of the problem, and if the work of the Bureau is continued in California, we hope to have a complete pathological study included in the investigations.

In conclusion it may be stated that the results obtained during the past two seasons are very encouraging. The relation between handling and the occurrence of decay is as striking and consistent as the results of the orange investigations in Southern California which have led to the practical elimination of decay in transit. The indications are that by careful handling in packing, accompanied by some method of quick shipment or cooling the present losses from decay may be largely avoided.

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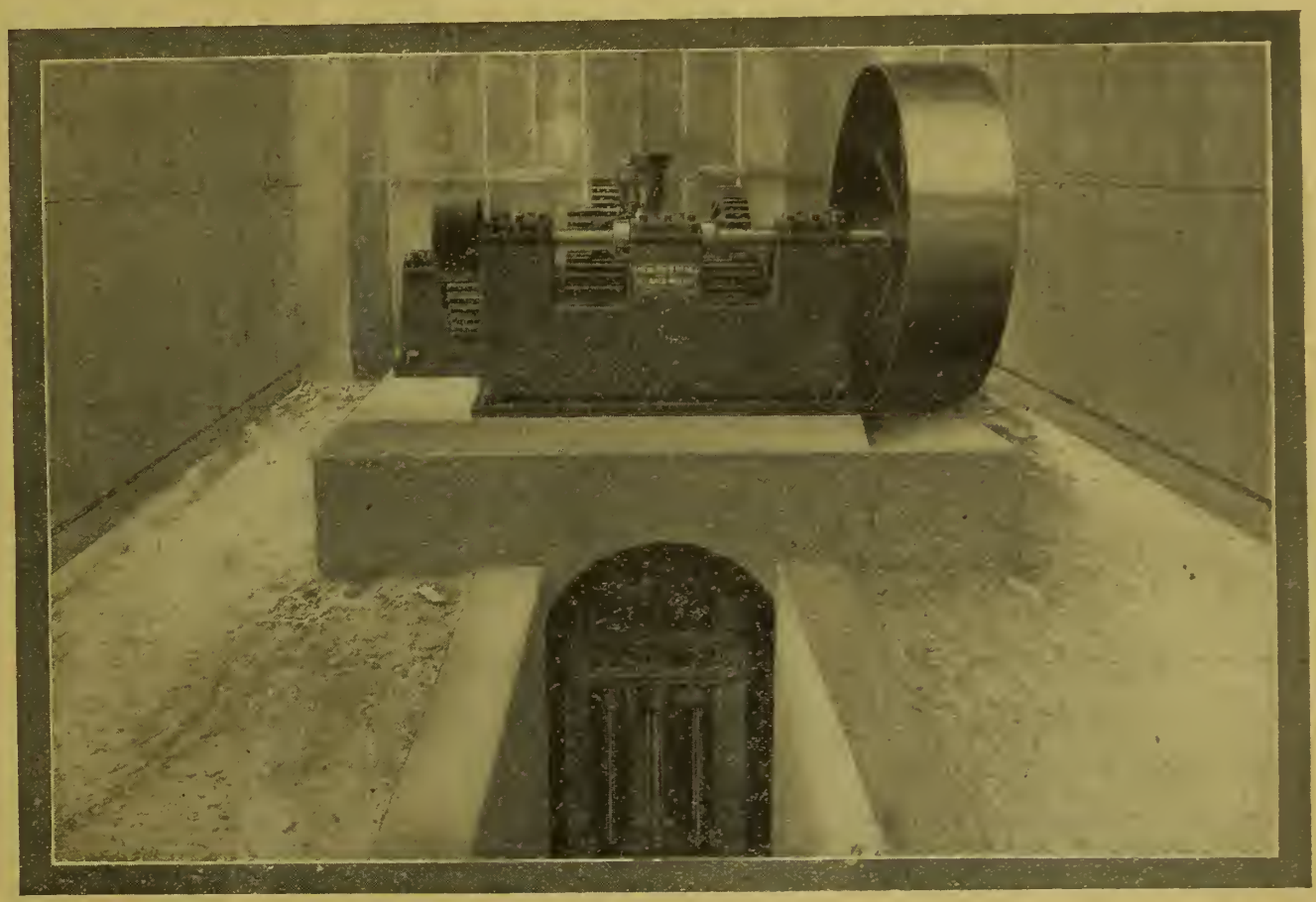

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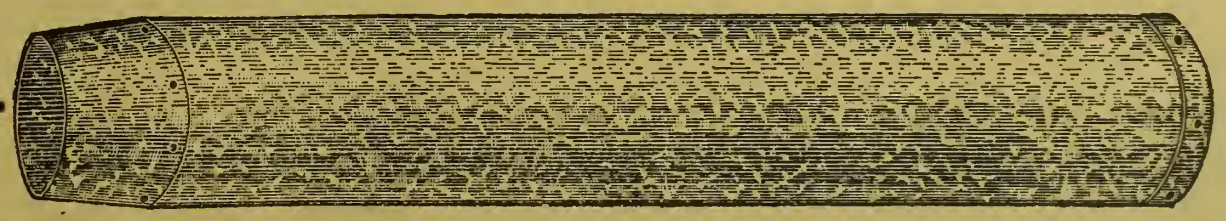

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# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Grape Pruning.

I have 100 Emperor vines planted on heavy land tending toward adobe. I have trained to stakes four feet high and pruned side vines to two buds and top vines same way. They are tremendous growers, but do not bear well. How can I improve them in this respect? Is the soil too rich? Missions, muscats and hamburgs planted near all do well.—W. T., San Dimas.

In regard to the Emperor vines, I would give them a little more wood, as the fact that they make so much wood rather than fruit indicates the pruning is rather too heavy. The vine cannot have too rich a soil as it is a heavy feeder. We would have these vines up here on five foot stakes with seven or ten spurs of three buds each or else they would be trellised to as much if not more spurs. Pruning is only a way of making a vine fruitful and manageable and if we overprune, the vine will either die or make too much wood. Each vineyard is a law unto itself in this, but it is safe to consider when the wood growth of a fruiting plant is too great that the pruning has been too severe and the plant is trying to overcome it.

### Olivile.

Answering query sent sometime ago by subscriber, the Braun Chemical Co. of Los Angeles states that the bitter principle in olives is called olivile.

### Date Culture.

What success has been attained in date culture in Imperial Valley and in the San Joaquin Valley?—E. B., Visalia.

In both valleys dates of remarkably fine quality have been produced, but so far as we are informed this industry is yet in an experimental stage. In the Coachella and Yuma sections there have been extensive plantings, but to say that they are a success would be to express a hope rather than a proven fact. Will subscribers in these valleys who know of successful date production inform us.

### Marketing Fresh and Dried Fruits.

It there or should there be any difference in methods of marketing fresh and dried fruits?—E. B., Visalia.

That would depend upon circumstances. General principles governing both are, of course, the same, but a glutted market might make it wise to follow different methods with dried fruit, which can be held while fresh fruit must take whatever the market offers when it is ripe. Some producers of fruits, grain, or whatever it may be, hold as a religious principle to the selling of products as soon as they are ready, claiming that year in and year out, quick selling has the advantage, but a question such as this requires vastly more space than is available in the query department. In fact, it would take volumes to answer it properly.

### Buttermilk for Hens.

Does feeding buttermilk to chickens harm them?—W., Santa Ana.

We cannot see wherein there would be any injury, and understand it is generally considered a fine feed for the flock.

### Dried Olives.

A subscriber at Riverside has not found satisfactory results from the method of olive drying given by Mrs. Williams in our issue of Oct. 14th. From Mrs. Williams we have received a letter touching upon this point, in which she says she would not exchange a quart of properly dried olives for a gallon of the ordinary pickled ones. She says, however, that there is sure to be some of the bitter principle left, which, if one did not like at all might make it impossible to appreciate this method of handling olives. She adds: "I think it would be wise for producers to prepare the olives in both ways so that the people who do not like the flavor of the dried olives may have the other." Mrs. Williams compares this bitter with that of grape fruit which is to a certain extent a tonic and, properly prepared, is becoming almost a necessity on the American breakfast table.

### Destroying Stumps.

I have a row of eucalyptus stumps a half mile long, stumps averaging from nine inches to a foot in diameter. They were cut level to the ground five years ago and while some of them are rotting, the majority are still solid. Can you tell me of a way of burning them?—Stumps, Oxnard.

Had the stumps been taken when trees were first cut and holes bored in the tops and filled with saltpeter, it is claimed by some that the stumps burn as soon as dry, and that this burning will remove even the roots. Others prefer to let them dry as yours have done, then bore holes and fill with kerosene. After a few days this kerosene will be so absorbed that when a fire is built on the stump, it continues to burn until it is consumed. In practice, however, nothing is so satisfactory as grubbing out the roots.

### Hard Milkers.

I have a grade Jersey that has always been a good milker until this year. She has been fresh about a month and two of her teats, on the right side, seem to have "shut off valves." It is with difficulty that I can milk her, and have to use milking tubes. Is there some method of correcting this?—O. P. O., Porterville.

Write to O. J. Weber Co., 225 E. 6th St., Los Angeles, for their hard milking outfit. Mrs. Sherman says, however, that she does not think it well to use anything of this kind on a cow in full milk as it is hard to secure proper healing of the cut. Application of hot compress might allay a possible inflammation which causes the hard milking.

### Broom Corn.

Will broom corn sprout from the root and make a profitable crop the second year after planting in this locality?—R. L. B., San Jacinto.

I would have to try this to know, as all corn plants are supposed to be annuals. The Amber Sorghum will grow from year to year if it is not allowed to form seed and if it escapes the winter's frost. The making of a heavy crop of seed will stop its growth at once no matter what the season of the year is up here. I should not be very hopeful of being able to cut a crop of broom corn and then have the plant grow again. As a plant it has accomplished its purpose in life and is really according to the laws of life ready to go out. Try it, however, if only in a small way. California is so wonderful a country that we never know what the climate and soil will do for us.—M. E. S.

### Peach Blight.

My peach trees have a gummy substance that comes out through the bark on both old and young trees, and seems to be killing them. I have sprayed with Bordeaux mixture but cannot see that it helps them.—G. H., Fresno.

Peach Blight of course. The spraying must have been done at the wrong time for we have sprayed with great success for the past years. We use 4 parts of blue stone, 6 of lime and 40 of water. Be sure the blue stone is blue in color for that is the copper. I am sorry to say that there are a good many cases where green stone, sulphate of iron, instead of blue stone, sulphate of copper, is given to the fruit grower by the store keepers. Sometimes they are told it is just as good. In making the Bordeaux, good lime also is necessary, then take care in making it. So many do not dissolve the bluestone completely. It must be dissolved by having it in bags in half the water, a few pounds in a piece of sacking hung on a nail at the top of the barrel and it will fall as it dissolves to the bottom of the barrel. Then use the other half of the water to slake the lime, making it smooth and milky water of lime. When it goes into the spray tank have two men to pour it in mixing the two streams of liquid as it flows into the tank. Then stir it as it is put on the trees. Time too is a feature. If the spraying is not done by December 15th the efficiency is nearly 50 per cent less. We usually have the spraying done in November to be on the right side of things. The trees may be pruned in the first week of November and the pruners will keep ahead of the spraying. Haul out the heavier brush and the lighter will not interfere very much with spray tanks. The peach orchards are becoming affected generally and for that reason new people are discouraged over the planting. It will pay handsomely I think in the next few years to grow peaches as they will not come in as fast as they are needed. The canners have all had to prorate their peach orders this season. That means no carry over for next year.—M. E. S.

### Wheat for Hogs.

I wish to know the best way to feed wheat to hogs for fattening purposes. When fed dry a portion of it seems to pass without being digested.—J. S. S., Fresno Flats, Madera Co.

I presume this questioner has no way of grinding or no way of selling this wheat. Wherever there are chicken feeders a good market can be found for shrunken or inferior wheat that makes it more profitable to sell than to hold it for pig feed. The difficulty of the stock passing it whole may be readily overcome by soaking the grain long enough to swell and soften it. Water, milk or butter milk may be used for this purpose.—M. E. S.

### Cause of Abortion.

I had a cow bloat on alfalfa a month ago. The second day after she bloated she lost her calf. I gave her soda to relieve the bloat, would that cause this? It was her third calf, have never had any trouble of the kind before. She was within five months of calving time. How soon would it be safe to breed her again? This happened a month ago.—A Subscriber.

No, I would rather think the severe pain of bloating was the cause. If there is no discharge it is hardly likely to prove more than a mishap, not of a contagious nature. I would pass over one period of heat and then before breeding her inject warm soda water, tablespoonful of baking soda to a gallon of warm water. Do this half an hour or so before breeding her. Any time within a couple of hours will answer for the purpose.—M. E. S.

### Preventing Breeding of Flies.

You have said in the Cultivator that the use of gypsum prevents the formation of odors in stables, and I wish to ask what will be its effect on preventing flies from breeding, or is there an other chemical which may be use for this purpose?—A. C., Folsom.

In his address before the State Fruit Growers' Convention on Insects As They Relate to Rural Hygiene, Prof. Hermes of the State University said that the purchase of insecticides for continued use on manure piles is a matter of no small expense. There are two classes of remedies which he recommended, contact poisons and

stomach poisons. To the first class belong kerosene emulsions, creosol preparations, and chloride of lime; to the second class belong the arsenicals such as arsenate of lead and Paris green. Unfortunately, these are not only expensive, but can be used with no degree of safety to domestic animals. Prof. Hermes recommended as the only preventive of flies, absolute cleanliness so far as possible to be secured about the stables.

### Chicken Manure.

How does one ton of chicken manure compare with one ton of commercial fertilizer for orange and lemon trees?—W. H. H., Ioamosa.

Approximately its value is about five dollars a ton. From an article by Mr. Mills in Cultivator of Sept. 10, 1908, we quote: "Analyses show that on an average 100 pounds of fresh poultry manure contains .05 pounds of phosphoric acid, .56 pounds potash, 1.10 pounds nitrogen." It is a valuable by-product and should be preserved most carefully. It is excellent on orchard trees. Because of the quantity of silica contained in this form of manure it is more profitable to use fresh from the poultry houses and as quickly as possible incorporate it with the soil. The free silica hardens when the manure is allowed to dry and makes a proportion of the fertilizer unavailable

### Bougainvillea from Cuttings.

Will the bougainvillea grow from cuttings, and when should they be slipped? Should camphor seed be dried or planted fresh?—Subscriber, El Modena.

The magenta bougainvillea is easily produced from cuttings which should be made whenever the plants are dormant. The lighter rose colored variety is a different proposition, and while it is produced from cuttings, it is much more difficult to grow. Camphor seed will give better results if planted fresh.

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Where dairies or butter factories are, or where the milch cow is a factor for other purposes than the sale of milk as such, the pig is a most useful and profitable adjunct. Upon the skim milk, judiciously used with other and more substantial foods, he thrives, grows and fattens, utilizing a by-product of tremendous volume which without the pig would represent little of available value. It it said that the skim milk from the butter factories of New York alone amounts to nearly a billion pounds in a single year. The use of this skim milk does much to give relief from monotony so common in the hog's feeding, besides adding to the returns from the other or main foods with which it is given, and every hog-raiser is glad to have it.—From Coburn's "Swine in America."


# Money Making Little Liners

In this department we will insert your advertisement under a classified head for 1½ cents per word. No ad accepted for less than 25c. Our classified columns are the clearing house for our many thousand readers.

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FOR SALE.—CHEAP, SEVERAL HUNdred Nevadillos 18 to 40 inches, clean, straight, thrifty trees. D. H. JENKINS, 1836 Arlington St., Los Angeles, Cal.

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FOR SALE CHEAP—FROM 100 TO 500 colonies of bees, location. Come and see, get a crop every year. FRED M. HART, Hanford, Cal.

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SPECIAL — FOR SALE, HOLSTEIN bulls, two old enough for service and a number of yearlings. Also a few calves that are small enough to crate Julianas, De Kols and all the strains for which this herd has been famous are represented. The only cows to hold World Records raised in the state were bred on this ranch. Same blood still represented largely in the herd MINNEWAWA STOCK FARM, Fresno. Cal.

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SAGE HONEY, GUARANTEED ABSOlutely pure. One 5 gal. can, crated, f.o.b., $4.25, two 5 gal. cans, crated, f.o.b., $8.00. HENRY E. HORN. Riverside, Cal.

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FOR SALE.—SECOND-HAND WINDmills, tanks, pumps and engines. Windmills in 8, 10, 12-foot sizes, tanks 100 to 25,000 gallons. One 12,000 at $69, first class, like giving it away. 12-H.P. gasoline engine, cost $550, trade for runabout auto or big team horses. Also new outfits. Demmitt Co., 120 North Main St., Los Angeles, Cal.

FOR SALE.—WE BUY, SELL, EXchange and rent machinery. Motors, Gas Engines, Compressors, Pumps, Hoists, Shop Tools. Some snaps in both new and used machinery. BAILIE & BRANDT COMPANY, 943 & 945 North Main St., Los Angeles, Cal.

FOR SALE.—24-INCH ADDISON DOUble Acting Pump Head, with working barrel, etc. Good order. MACHINERY EXCHANGE, Main & Bruno Sts., Los Angeles, Cal.

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STRAWBERRY PLANTS—FINE ONES. Pedigreed thoroughbreds, grown and restricted by scientific propagation, enormously productive. Same price as common stock. 60c per 100, $3.00 per 1,000 crated. From sixty varieties I have selected three of the "very best," Jessie, Marshall and Dollar. J. A. POWELL, R. D. 1, Ripon, San Joaquin Co., Cal.

10,000 IMPROVED SUPERLATIVE Red Raspberry Plants, the largest in cultivation, delights in hot weather, does not fall from plant when ripe. 100 plants $5.00. WM. RICHARD, 438 River St., Santa Cruz, Cal.

CUTHBERT RASPBERRIES. THE best variety you can plant. 100,000 fine rooted plants from a young plantation. Price in lots very low if ordered before January tenth. JOSEPH THORNDIKE, Pasadena, Cal.

FOR SALE.—STRAWBERRY PLANTS, A 1, Klondyke, Jessie, $3.00 per thousand; Himalaya and Mammoth Blackberry $2.50 per hundred, $20.00 per thousand. F. L. Wing, Upland, Cal.

BERRY VINES—WE MAKE A SPECialty of Mammoth, Himalaya, Phenomenal, Logan and Dewberry vines. Write for prices. GRIDLEY COLONY NURSERY, Gridley, Cal.

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DAY-OLD CHICKS FROM MY PURE bred, carefully selected stock of S. C. White Leghorns, $1.00 per 10, $9.00 per 100. Eggs for hatching $1.00 per 15, $5.00 per 100. J. R. HEINRICH POULTRY YARDS. Arroyo Grande, Cal.

BUFF ORPINGTONS ONLY.—From fine mated pens including all of my prize winners, $2.50 per 13 eggs, 2nd pen $1.25, $7.50 per 100. Birds for breeding reasonable. H. ANDERSON, Fredensborg Ranch, Suisun, Cal. Mention this paper.

FOR SALE—FIVE MAMMOTH Bronze Turkey Toms nine months old, from W. W. Howard's famous strain. None finer. Magnificent large birds, beautifully marked. A. C. WISEGARVER, San Fernando, Cal.

WHITE ROCK AND COLUMBIAN WYandotte eggs. From Los Angeles prize winning stock, $2.50 per 13 or $5.00 per 30. Stock for sale. Address J. W. WHITNEY, R.F.D. 2, Long Beach, Cal.

WHITE MINORCAS AT HALF PRICE. Owing to ill health I will sell out the balance of my beautiful young hens and roosters, in lots of not less than 10, at $1.25 per head. C. S. LANE, Santa Barbara, Cal.

WHITE MINORCAS (THOROUGHbred)—Eggs in season. Cockerels for sale. Also a few thoroughbred Houdans (cheap). L. V. PETERSON, Guerneville, Cal.

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WHITE LEGHORNS.—CIRCULAR GIVing show record, description, prices, sent on application. Eggs by the setting or 1,000. C. B. CARRINGTON, Orchard Ave., Hayward, Cal.

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THE SUCCESS LAMPLESS INCUBAtors and Automatic Designating Nests, both recently patented, are products of modern science. FRANCIS S. BARZEE (Patentee) Napa, Cal.

FOR SALE—BLACK MINORCA COCKerels, Wheelers Strain, $2.50 each. Incubator chicks $12 per 100, eggs $1.50 per 15, $6.00 per 100. Mrs. A. F. FRESE, Box 456, Dixon, Cal.

ELEANORE MINORCA FARM—ROSE Comb Black Minorcas. Eggs in season. Club catalogue free. Route 1, Los Angeles, Cal.

PIT GAMES—SOUTHERN AND GRADE Japs. O. L. CRANE, Route 3, Santa Rosa, Cal.

FOR SALE.—BROWN LEGHORN eggs $5.00 per hundred. MRS. E. FORAN, Box 445, Visalia, Cal.

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KINGS COUNTY LAND—60 acres at $95 per acre; good buildings; good location; good land; plenty of ditch water; suitable for dairying or general farming; some alfalfa fenced and crossed; terms. Address HOUSTON BROS., 220 N. Irwin St., Hanford, Cal.

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enables you to read Target at a distance of over 400 yards, therefore the problem of a FARM LEVEL with TELESCOPE at moderate cost has at last been solved. Voluntary letters from every State in the Union show the complete satisfaction it gives for all kinds of **DRAINAGE WORK, IRRIGATION, DITCHING, TERRACING** and every sort of farm work requiring a Level. GUARANTEED to be absolutely SIMPLE, ACCURATE, DURABLE and dependable in every respect.

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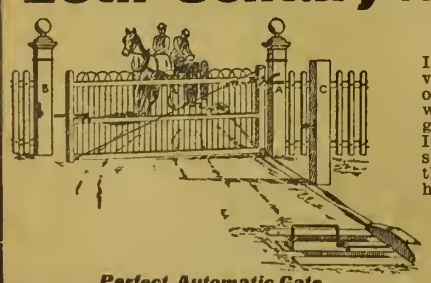

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***A. J. Bloom***
***Petaluma, California***


# Household Department

## A CHRISTMAS RHYME.

Glad Christmastide is drawing near,
A poem I'll indite,
Wherein is fitly eulogized
This season of delight;
Methinks I can portray it well—
A task oft done before—
And yet how strangely halts my pen,
My ready pen, of yore!

Now, something in this good old style:
Across the trodden snows
The sleighbells ring a merry tune,
As, dashing to and fro—
But what's the matter with my muse?
She doesn't come to time!
The semi-tropic's genial warmth
Inspires no Christmas rhyme.

From open window I can see
A garden, all aglow
With bud and bloom, 'mid verdure set—
How can I theme of snow?
The breezes, blowing through the grove,
Sweet with a rare perfume,
Soft as the winds of Araby
Suggest not winter gloom.

I'll try again: The fuel bring
And heap the grate the higher;
Let storms unceasing rage without,
We'll gather 'round the fire—
Oh, bosh! Why prate of Boreas' pranks
When like a lamb lies he?
Ill get me to some sylvan nook
In this our Italy.

—J. Torrey Connor, in Sunset Magazine.

## CHRISTMAS IN THE FARMHOUSE.

WHEN a child you read stories of Christmas celebrations where houses were decorated with holly and mistletoe and the people had such jolly times putting them up, didn't you look around your own house and wonder how that would look if trimmed with those same greens? And didn't you long to smell their spicy fragrance and to have a hand in putting them up where you thought they would look the best? And didn't you long to feel that peculiar Christmas spirit that is in the very air in cities and villages for more than a week before Christmas Day itself? And then did you just settle back and say, "Well, it's no use, as long as I live on a farm, Christmas must be just the same as it always has been—an exchange of gifts and an unusually big dinner?" Now I want to tell you that you are mistaken—that you can have just those very same things, even to bringing in the old-time Yule-log, if you are so fortunate as to have an open fireplace in the farmhouse.

City people pay from twenty-five cents to one dollar and a half for wreaths of Christmas greens to hang in their windows. You can easily make them at home by using a cardboard foundation to keep your wreath perfect in shape, and they can be made out of any kind of evergreen, even from the ordinary hemlock boughs. A few sprays of holly or any red berries may be added, but a plain green wreath tied with holly, red ribbon or even red crepe paper brings pleasant Christmas thoughts to every one's mind. The festooning sold in the cities costs from twenty-five cents a yard up, depending on the quality and size; but you will obtain very pleasing effects by using the natural sprays. Even a stair rail may be wound by simply twisting the end of one spray about the beginning of another. But the regular festooning may be easily made by winding with a heavy twine. It takes but a little time to do this, and you will find such joy in it that it will not seem like work.

There is an immense trade in the cities in Christmas ferns for table decorations. Did you know that those beautiful ferns were nothing but the ordinary woods ferns? They are gathered, smoothed out perfectly flat and tied in bunches. A number of bunches are laid carefully on the ground in a pile and covered with leaves and hemlock boughs and left until they are shipped to the city for the Christmas trade. Couldn't you do that, and, furthermore, have ferns whenever you wanted nearly all winter? Few country people appreciate the real beauty of ferns or realize how much money city people spend for them.

City people pay from thirty-five cents to a dollar for a small house Christmas tree, and every one who can afford it buys a tree every year for his children. How often do farmers' children have trees? And why not? Because the parents say: "We haven't gifts enough to make a pretty tree." Many people never put a gift on—simply make it a tree of beauty for the children. Strings of popcorn, wishbones and canes gilded, gold stars—anything bright and shiny hung on a tree delights a child—a bag of popcorn with a few candies in it tastes five times as good if it has only once hung on a tree. Even if the gifts must be underwear, shoes and things actually needed to wear, have them come as surprises and in as "Christmasy" looking packages as possible. Keep the Christmas spirit in the home.

It seems a pity for us country people, surrounded by these beautiful things deemed luxuries by our city friends, to make no use whatever of them and to let our lives become so commonplace. Christmas is not solely a day for gift giving and receiving and eating; it is a day for doing everything in your power to add to the joy of the children—a day to remember the feeble and lonely old people—a day to think of the strangers and the poor. If you haven't money to spend for gifts for them, you can give some of yourself and of your own home Christmas cheer. There are homes that it is an inspiration to enter because of the Christmas spirit they breathe forth. I trust the farm homes will not be lacking in Christmas beauty or Christmas cheer—that all of them will truly "keep Christmas."—Country Gentleman.

## "A MERRY CHRISTMAS."

The Christmas chimes are pealing, softly pealing; the joyous sounds are ringing, ever louder and clearer, ever nearer and nearer, like a sweet-toned benediction falling on the ear. Glad ringers are pulling the ropes, and in one grand swell of melody Christmas with its old yet ever new and marvelous mysteries, bursts triumphantly upon the world once more.

The cattle have turned their heads to the east and knelt down to worship the king cradled in the manger; the houses are decked with holly, the yule-log burns brightly; the gray shadows sweep away; the sun is up and the bright-eyed children, who have lain awake all night listening for the patter of old Saint Nick's tiny steeds on the roof only to fall asleep at the eventful moment, wake hurriedly to find the stockings running over with toys and sweetmeats.

Beautiful and right it is that gifts and good wishes should fill the air like snowflakes at Christmas-tide. And beautiful is the year in its coming and in its going.

I do not know a grander effect of music on the moral feelings than to hear the full choir and the pealing organ performing a Christmas anthem in a cathedral and filling every part of the vast pile with triumphant harmony.—Washington Irving.

Teacher (to boy who was invariably late to school)—Why, Johnnie, are you on time at last?

Johnnie—Yes, teacher, at last I am before; I've always been behind before.

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**Genasco Ready Roofing**

is made of Trinidad Lake Asphalt. You know it will last and give your roof absolute protection.

Do you know that much about roonngs made of "secret compounds"?

Be on the safe side and get the roofing with lasting life, backed by a thirty-two-million-dollar guarantee. The most economical roofing for every building on the farm. Mineral and smooth surface. Look for the hemisphere trade-mark, and insist on Genasco. Write for the Good Roof Guide Book and samples.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

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is the best equipped wireless school in the world for teaching this science. We are located so that our high power station is in daily conversations with all stations on the Pacific Coast. R. R. Commercial School of Telegraphy owned and operated in connection with us. We can qualify you for a position anywhere. Young men and women write for descriptive circulars.

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## CORNED BEEF RECIPES.

A subscriber at Imperial wishes appetizing ways of serving corned beef. The regulation slicing cold is less relished in time and new ways are desired. Will our readers send in new ways? Here is information as to boiling, also a luncheon recipe for a starter.

### Boiled Corn Beef.

Soak over night if very salt, but if beef is young and properly corned this is not necessary; pour over it cold water enough to cover it well, after washing off the salt. The rule for boiling meats is 25 minutes to a pound, but corned beef should be placed on a part of the stove or range where it will simmer, not boil, uninterruptedly from four to six hours, according to the size of the piece. If to be served cold, some let the meat remain in the liquor until cold, and some let tough beef remain in the liquor until the next day, and bring it to the boiling point just before serving. Simmer a brisket or plate piece until the bones are easily removed, fold over, forming a square or oblong piece, place sufficient weight on top to press the parts closely together, and set where it will become cold. This gives a firm solid piece to cut in slices, and is a delightful relish. Boil liquor down, remove the fat, season with pepper or sweet herbs, and save it to pour over finely minced scraps and pieces of beef; press the meat firmly into a mould, pour over it the liquor, and place over it a close cover with a weight upon it. When turned from the mold, garnish with sprigs of parsley or celery and serve with fancy pickles or French mustard.

### Luncheon Corn Beef.

Thin slices corn beef; 1 tablespoon butter; 1 tablespoon flour; 1 tablespoon good vinegar; 1 cup of water.

Put into a frying pan the butter and flour; cook, stirring all the while. Add water and vinegar. Lay corn beef in this and cook four or five minutes.

## HE WENT TO SLEEP, BUT—

Recently a friend who had heard that I sometimes suffer from insomnia told me of a sure cure. "Eat a pint of peanuts and drink two or three glasses of milk before going to bed," said he, "and I'll warrant you'll be asleep within half an hour." I did as he suggested, and now for the benefit of others who may be afflicted with insomnia, I feel it to be my duty to report what happened, so far as I am able to recall the details.

First, let me say my friend was right. I did go to sleep very soon after my retirement. Then a friend with his head under his arm came along and asked me if I wanted to buy his feet. I was negotiating with him, when the dragon on which I was riding slipt out of his skin and left me floating in mid-air. While I was considering how I should get down, a bull with two heads peered over the edge of the wall and said he would haul me up if I would first climb up and rig a windlass for him. So as I was sliding down the mountainside the brakeman came in, and I asked him when the train would reach my station. ,

"We passed your station four hundred years ago," he said, calmly folding the train up and slipping it into his vest pocket.

At this juncture the clown bounded into the ring and pulled the centerpole out of the ground, lifting the tent and all the people in it up, up, while I stood on the earth below watching myself go out of sight among the clouds above. Then I awoke, and found I had been asleep almost ten minutes.—The Good Health Clinic.

## HAPPINESS.

He—You remember the moonlit night, twenty-five years ago, when I proposed?

She—Yes, indeed.

He—We sat there for more than an hour, and you never opened your lips.

She—Yes, dear.

He—That was the happiest hour of my life.

"See the shadow the book throws across my waist? It's like the shadow caused by the metal burner or tank of your light—with this difference, I can take away the book and get direct, shadowless light. See the point!"

**MORE LIGHT**

—where more light is needed—that's what The Angle Lamp gives. It is oil lighting at its best with the smoke, odor and bother eliminated by new methods. It throws upon book or table a direct shadowless light delightful to read or work by.

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resembles a handsome gas chandelier in its appearance and in its convenience. It is lighted and extinguished like gas. May be turned up full or turned low without odor. Safely filled while burning. Requires filling once or twice a week. Floods every corner of the room with a splendid light. Costs about 3 cents per week. Made in 32 varieties, a style to suit every need and taste. Call or write for catalog.

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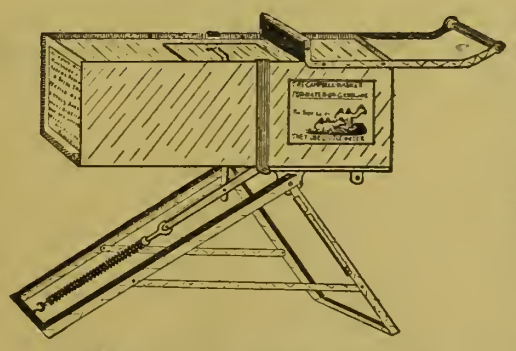

will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

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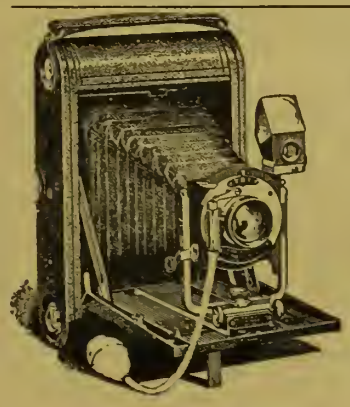

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**Earl V. Lewis Co.**

**226 W. 4th, Los Angeles, Cal.**

Mail Orders Solicited

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Dec. 22, 1909.

### Butter.

The butter market is in best of tone and supplies not sufficient for the demand. Quotations exactly as last week.

Produce Exchange wholesale quotations are as follows with actual selling prices to the trade 2½ advance on Extras.

Creamery per roll .....67½@75
Eastern Creamery per roll .....67½
Cooking .....26
Ladles .....26@27

### Cheese.

Northern fresh .....20
Domestic Swiss .....23
Imported Swiss .....32

### Eggs and Poultry.

Storage eggs are being drawn upon heavily, and fresh are picked up immediately on receipt. The rigid enforcement of the pure food law is depressing the demand for storage.

Paying price f. o. b. L. A. is:
Local candied .....48@50
Case count buying price.....45
Eastern fresh .....35
Storage .....26@28

Dealers pay for live poultry f. o. b. L. A.
Hens per pound .....18@19
Roosters .....9@18
Roasters 3 lbs. and up .....18@19
Spring chickens .....18@20
Turkeys .....20@24
Geese .....10@12
Ducks .....10@12
Squabs .....1.25@1.75

### Live Stock.

All prices on live stock are advancing. Hogs are strong at 8c with every promise of a continuing firm market.

The following quotations are f. o. b., Los Angeles on all stock.

Hogs from 175 to 200 pounds.....8
Prime Steers .....5
Heifers .....3½@4¼
Calves per pound .....5
Sheep ewes per head.....4.00@4.25
Lambs per head.....4.00@4.25
Wethers .....4.50@5.00

### Potatoes.

Wholesale prices are:
Sweet per ctl.....1.75
Burbank local .....85@1.00
Highlands .....1.10@1.35
Salinas .....1.50@1.65
Watsonville .....1.50@1.65
Oregons .....1.40@1.50
Oregon Rose .....2.00
Lompoc .....1.65@1.75

### Onions.

Wholesale quotations:
Australian Browns per sack .....1.75
Garlic .....8@10

### Vegetables.

Wholesale quotations:
Artichokes locals .....1.10@1.25
Beets, sk .....80
Beans, string .....9@10
Brussels sprouts per lb. .....8@9
Bell peppers .....6@8
Cabbage, per sack.....1.00
Celery per doz .....50@60
Cucumbers per doz .....1.50
Cauliflower per doz .....40@60
Carrots per sk .....80
Egg plant per lb. .....5@8
Green onions per doz bunches.....25
Hubbard squash .....1@1½
Lettuce choice per crate ....1.25@1.50
Leeks .....35
Oyster plant .....35@40
Summer Squash, lug.....75
Okra per lb. .....8@10
Peas, per lb.....9@10
Parsley, per dozen bunches ....15@25
Pumpkins per lb. .....1½
Parsnips .....40
Radishes per doz. .....20@25
Rhubarb, crimson winter.....1.00
Spinach per doz .....17½
Turnips sk .....80
Tomatoes lugs .....90@1.00

### Citrus Fruits.

Navels .....2.25@2.75
Grapefruit .....2.50@3.50
Lemons .....2.25@3.50

### Fresh Fruits.

Wholesale prices on the market are:
Bellefleurs .....1.35@1.65
Winesaps California .....1.25@1.75
Permains Red .....1.20@1.50
Pearmains W W .....1.35@1.75
Newtown Pippins .....1.50
Jonathans .....3.00
Cider .....1.25@1.50
Casabas per crate .....1.70
Cantaloupes Jumbos..... ..2.50@3.00
Christmas melons .....2.00
Figs .....1.25@1.50
Grapes lug box .....1.25@1.50
Persimmons lb. .....6@8
Pomegranates per lb. .....5
Peaches per box .....1.00@1.25
Winter Nelis .....2.25
Quinces per bx.....1.25
Raspberries .....10
Strawberries .....8@10

### Dried Fruits.

Wholesale prices are:
Apricots .....12@15
Evap apples fy per lb .....10@11
Figs box .....1.25
Peaches .....7@8
Pears .....11@12
Plums pitted .....12½
Nectarines .....9@10
Prunes .....4½@10

### Beans Dried.

Wholesale quotations:
Limas per ctl .....4.40@4.50
Pink No. 1 .....4.40@4.50
Black eyes .....4.75
Lady Washington .....4.25@4.50
Small white .....540@5.50
Garvanzas .....4.50.
Lentils .....7.00

### Nuts.

Wholesale quotations are:
No. 1 soft shell walnuts .....13½@14
No. 1 hard shell .....11
No. 2 soft shell .....10
Walnuts, budded .....18@20
Almonds, IXL per lb. .....15@17
Pecans polished .....12½@17
Peanuts, Eastern .....7
Peanuts, Cal .....5@5½

### Honey.

Wholesale quotations:
Extracted water white .....7@7½
Extracted light amber .....6@6½
Comb Water White .....18
Comb, white .....15
Beeswax .....25

### Hay.

Buying prices f. o. b. cars L. A. are:

Hay is in big supply. At this writing a large supply is on the track with demand weakening. The well distributed rains are doubtless cause of the weakness.

Barley hay .....10.00@13.50
Alfalfa, local .....12.50@13.00
Alfalfa Imperial .....11.00@12.50
Northern .....12.00@12.50
Wheat hay .....11.00@13.50
Tame oat .....11.00@15.00

### Grain.

Wholesale selling price f. o. b., Los Angeles:
Wheat, new, per ctl .....2.15@2.20
Kaffir corn .....1.85
Corn .....1.80
Egyptian corn .....1.85
White oats .....1.85
Seed Rye .....2.10
Seed Barley .....1.70

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn .....1.85
Cracked wheat .....1.85
Shorts .....1.85
Bran .....1.60
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....1.85
Feed meal .....1.90
Cracked wheat .....2.10
Rolled Barley .....1.65

## San Francisco Markets

SAN FRANCISCO, Dec. 21, 1909.

### Butter.

Butter is quiet with supply rather above demand. Quotations stand at exactly last week's figures.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

California extras per lb. .....35½
California Firsts .....31
California seconds .....29
Storage extras .....30
Ladles .....25½

### Cheese.

California flats new.....17½@18½
Cal. Young American fy new....18@19
Young American Oregon fy.....18½

### Eggs and Poultry.

Eggs stood at last week's quotations till Monday, when a 2½ cent advance was made.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:
Fresh ranch extras.....56½
Firsts .....45
Storage extras .....32
Hens per doz .....5.00@9.00
Roosters per doz .....4.00@8.00
Fryers per doz .....5.50@6.00
Turkeys .....20@23
Geese per pair.....2.00@3.00
Ducks .....4.00@9.00
Pigeons young .....1.00@3.50

### Live Stock.

San Francisco prices gross weight:
Steers .....3½@4¾
Cows and heifers.....2@3¾
Hogs .....5@8¼
Calves per lb .....4@5½
Milk Lambs .....6@6¼
Wethers No. 1.....5¼
Ewes No. 1.....4½

### Potatoes.

Wholesale market quotations:
River White crates .....75@90
River Whites, extras .....90@1.00
Salinas .....1.20@1.40
Oregons .....1.00@1.25
Sweet crates .....1.25@1.50

### Vegetables.

Wholesale quotations:
Cucumbers hot house per doz 1.00@1.25
Celery doz .....75@2.25
Chili peppers per lb.....7@8
Egg plant per lb.....7@10
Green peas per lb. .....12½@15
Mushrooms per lb.....25@40
Okra .....75@90
Winter Rhubarb per lb.....5@7
String beans .....10@15
Summer squash .....1.25@1.50
Tomatoes bay .....1.25@1.75
Tomatoes southern .....1.00@1.50
Wax beans .....10@12½
Lima beans .....9@10
Garlic .....5

### Onions.

Yellow onions .....90@1.10

### Citrus Fruits.

New Navels .....1.75@2.75
Tangerines .....75@1.75
Grapefruit .....1.00@3.00
Lemons .....1.25@4.50
Limes .....4.00@4.50

### Fresh Fruits.

Bellflowers .....1.00@1.25
Newtowns .....1.25@1.75
Figs blk box .....50@75
Pomegranates .....50@1.50
Pears Winter Nells .....1.00@1.75
Pears, cooking, box .....75@1.00
Persimmons .....75@1.25
Quinces .....75@1.00
Huckleberries per lb. .....8@10
Strawberries, chest .....12.00

### Dried Fruits.

Santa Clara prunes.....2¾@3
1 cent premium for larger sizes.
Apricots per lb. Royal .....10½@12½
Peaches .....5½@7½
Apples evap .....8@9
Pears .....6@9¼
Figs .....3¼@5
Nectarines .....5@6
Plums .....7@8

### Raisins.

RAISINS—1909 crop, f. o. b.: Fancy Seeded, 16-oz. cartons, 5@5¼c; do, 12-oz, 4½c; do. choice, 16-oz., 4½@4¾c; choice, 12-oz., 4c; 50-lb. bxs. Loose Muscatels, Standard, 4-crown, 4@4¼c; 3-crown, 3¼@3½c; 2-crown, 2½@3c; Seedless Thampson, unbleached, 3c; do, bleached, 7@7½c; Sultanas, unbleached, 2¼c; do, bleached, 4@4½c; Muscatels, unbleached, 2¼c; Dried Grapes, nominal; London Layers, clusters, 2-crown, 85@90c; 3-crown, 90@$1; 4-crown, $1.30@1.50; 5-crown, $1.75@2; 6-crown, $2@2.50.

### Nuts.

Walnuts soft shell No. 1 .....13@13½
Walnuts S. S. No. 2 .....8@8½
Walnuts, hard shell .....13
Almonds '09 N. P. U .....13
Almonds '09 nonp .....14½
Almonds I X L .....14
Pecans .....15@17
Chestnuts .....14@15
Peanuts .....5@6

### Beans Dried.

Limas .....4.15
Pink .....3.70@3.75
Black eyes .....4.05
Small white .....4.85
Large white .....3.40@3.50
Red Kidneys .....5.10@5.25
Garvanzas .....3.00@3.25
Bayo .....5.15@5.25
Horse beans .....2.10@2.25
Cranberry .....4.50

### Hops.

Hops 1909 crop.....19@24
Hops 1908 crop .....17@20
Old .....10@13

### Honey.

White comb .....14@15
Light Amber .....10@12
Extracted W W .....7½
Extracted light amber .....6½@7
Beeswax per lb. .....25@29

### Hay.

Scott, Magner & Miller say:

Arrivals of hay for the past week have been 2229 tons, as against 2374 tons of the preceding week. As can readily be seen, the receipts are very light, farmers being busy seeding their ground after recent rains, and have not had time to make shipments, and practically everything the past week has come in for dealers account.

Receipts of fancy Livermore hay have been in light supply, and this one commodity has sold in this market for one dollar per ton more than last week's quotations.

Allowing for an equal demand this year to what we had last year, which at the present time is absolutely not in evidence, we cannot look for a greater demand from the 1st of December, 1909, to the 1st of June, 1910, at which time our new crop is available, to exceed 70,000 tons, and as this is comparatively a very small percentage of the amount of hay on hand, we cannot but believe that this market will still go lower, as holders commence to realize that there is a great liability of their being compelled to carry their stocks over into the new year, with the new crop coming on, for which all conditions at the present time are most favorable.

The export demand for the past week has improved, owing to the shipment of 350 tons of hay on a contract for the Post at the Hawaiian Islands, the contract for which was let to our firm last August, this being the first delivery. This hay was baled and held for them for several months past, therefore it has in no wise affected the present market. There has been considerable newspaper talk regarding shipments of hay to other states, but up to date we have had no call for any, other than the usual coastwise shipments which we receive every year.

Choice wheat hay.....18.00@19.00
No. 1 wheat or wheat & oat 15.50@16.50
No. 2 Wheat or wheat and oat .....13.00@14.00
Choice tame oat .....15.00@16.50
Other tame oats .....12.00@14.00
New Crop wild .....9.00@13.00
Stock hay .....7.00@8.00
Alfalfa .....9.00@12.00
Straw .....55@70

### Grain.

Wheat No. 1.....1.95@2.05
Barley No. 1.....1.37½@1.48¾
Oats white .....1.72½@1.77½
Oats gray .....1.72½@1.75
Rye new crop.....1.90@2.00
Cal sm round corn .....1.70@1.75
Alfalfa seed .....16@18
Mustard brown .....3¾@4½
Millet .....2½@3
Flaxseed .....4
Broom corn seed per ton .....23.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton ....37.00@38.00
Cracked corn per ton .....38.00@39.00
Ground barley per ton .....32.00@33.50
Rolled oats per ton .....33.50@35.00
Oil cake per ton ... .....38.50@40.00
Cocoanut cake per ton .....25.00
Middlings .....36.50@37.50
Mixed feed per ton .....28.00@33.00
Shorts .....31.50@33.00

## Citrus Market

LOS ANGELES, Dec. 22, 1909.

Oranges are going forward more rapidly from all citrus sections of the southern part of the state, while both Tulare and Butte counties are approaching the end of their season. These two sections will practically finish their output next week. One serious factor in the marketing of this season's fruit is the large sizes, which is alrcady shown by the excessive number of 126's and even 96's. The prices being received are satisfactory.

Lemons are still commanding most satisfactory prices. The imports are increasing. Lemons going forward now are of good quality.

**SHIPMENTS.**

Shipments from Southern California to date are 1162 cars, of which 707 are oranges and 455 lemons. To same date last season 1457 carloads of which 911 were oranges and 546 lemons.

The Tulare county section has shipped 2125 cars and the Butte county shipments are running up close to the 300 mark, but exact figures are not at hand.

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NEW YORK, Dec. 20.—Eight cars navels, four lemons and one Arizona navels sold. Market very steady on good quality navels and strong and active on lemons. Market fairly firm on Arizonas. Clear, cold.

| NAVELS— | Avge. |
|---|---|
| Golden State IMP TCC Ex | $3.40 |
| Watchumna TCC Ex IMP | 3.05 |
| Golden State TCC Ex | 3.20 |
| Watchumna TCC Ex | 2.55 |
| Gold Buckle RH Ex E High | 3.05 |
| Lochinvar RH E Highland | 2.70 |
| Tulip TCC Ex | 2.15 |
| Mt Whitney TCC Ex | 2.50 |
| Tulip TCC Ex | 2.00 |
| Mariposa Fy CCU | 3.05 |
| Winter Haven Fy CCU | 1.95 |
| J. E. Schram Fy | 2.90 |

Arizona Navels, Desert brand, half boxes, $2.70; Cactus, $2.00.

California Lemons—Whittier ST Ex, $4.60; Pico, $4,25; Pet SA Ex. $3.20; Greyhound, $2.90; Partridge, $4.10; Dixie, $4.05; Trail, $4.60; Canyon, $4.15; Our Beauty, $3.70; Protection, Fy. Ohio Lemon Co., $4.40; Buckeye, Ch., $4.05.

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CINCINNATI, Dec. 20.—Cold; market

steady; 14 cars Floridas sold, also 1 car California navels and 1 ear lemons. Florida Brights, $2,30 down to $1.75; Russets, $2.30 to $1.75.

| NAVELS— | Avge. |
|---|---|
| Zebra TCC Ex Lindsay | $2.15 |
| LEMONS— | Avge. |
| Pet SA Ex | $4.50 |
| Arab | $4.30 |
| Greyhound | $4.30 |
| Duck | $3.80 |

ST. LOUIS, Dec. 20.—Colder; market weak on account of weather; 15 cars sold. Floridas sold $2.00 to $2.75.

| NAVELS— | Avge. |
|---|---|
| Pampas Or St. Anaheim | $2.35 |
| Tulip TCC, Porterville | 2.00 |
| Pointer, ACG, Charteroak | 2.90 |
| Zebra, TCC, Lindsay | 2.30 |
| Pointer, ACG, Charter Oak | 2.80 |
| Pacific Beauty | 2.00 |
| LEMONS— | Avge. |
| Selected Limonelra Co | $4.90 |
| Loma | 4.70 |
| White Cross, Or | 4.55 |

PHILADELPHIA, Dec. 20.—One car lemons sold; also 11,000 boxes Floridas, $1.60 to $3.60, average, $2.00. Grapefruit, $1.90 to $3.25, average, $2.80; Tangerines; $1.30 to $1.95, average, $1.60. Market stronger.

Lemons—Sunside SP CFA, Santa Paula, $4.65.

PITTSBURG, Dec. 20.—Five cars sold; market strong on oranges and lemons, 12 cars Floridas sold, average, $2.25. Market steady on Floridas.

| NAVELS— | Avge. |
|---|---|
| Rainbow TCC Ex Lindsay | $2.50 |
| Zebra TCC Lindsay | 2.55 |
| Golden Flower, Xf Red GO Assn | 3.15 |
| LEMONS— | Avge. |
| Conqueror Xc Ind., F Co | $4.00 |
| Pomona SA Ex, | 3.90 |
| Mtn. Crest | 3.65 |

CLEVELAND, Dec. 20.—Three cars navels sold; market higher; cold.

| NAVELS— | Avge. |
|---|---|
| Pocahontas TCC Ex Zante, | $3.00 |
| Golden Flower Xf Red GO Assn | 3.05 |
| Gobbler Fy. Or Stewart F Co | 2.50 |

BOSTON, Dec. 20.—Five cars sold; cold; market doing better on navels; easier on lemons.

| NAVELS— | Avge. |
|---|---|
| Gold Buckle RH E Highlands | $3.00 |
| Lochinvar | 2.80 |
| Vista de Robles Or Hammond Or | 2.75 |
| Marguerite ⅞c CCU | $2.10@$2.55 |
| Vista de Robles | 2.55 |

NEW YORK, Dec. 21.—Four cars navels and two ears lemons sold. Market steady on good quality navels, firm on pale, inferior fruit. Market very strong and aetive on lemons when good. Weather clear; cold.

| NAVELS— | Avge. |
|---|---|
| Golden State TCC Ex | $3.05 |
| Watchumna TCC Ex | 2.60 |
| Forget-me-not TC Ex | 2.20 |
| Tulip TCC Ex | 2.10 |
| H & M Brand Xc CCU | 3.15 |
| Hollywreath Fy CCU | 2.05 |
| LEMONS— | Avge. |
| Artillery Or CCU | $3.70 |
| El Toro | 2.70 |
| Rialto Girl Fy Growers F Co | 4.70 |
| Choice | 3.35 |

BOSTON, Dec. 21.—One car sold. Cold. Market unchanged.

LEMONS—Pet SA Ex., $4.60; Greyhound, $4.05.

PHILADELPHIA, Dec. 21.—One car lemons sold. Also 8000 boxes Floridas, $1.30 to $3.40; average, $1.90. Grapefruit, $2.60 average. Tangerines, $1.55. Market easier.

LEMONS—Lemoncove TCC, Lemoncove, $4.50. Tulare, $4.00.

Five hundred thousand acres of arable land in south central Washington will come under irrigation by the completion of a reclamation system projected by ranchers in the Horse Heaven country.

The Union Stockyards at Portland, Oregon, recently purchased one load of hogs at the record breaking price of $8.60.

The aggregate output of the sugar from the Spreckels factory totalled a valuation of $4,095,000.

## ABOUT GRAIN DRILLS.

The question of advice regarding the kind of a drill is a rather delicate affair. It is a question we do not like to discuss in detail. We have had considerable experience with the different kinds of drills. Our early favorite drill was the closed heel shoe drill, meaning by this a shoe drill, the heel of which was not spread out so as to scatter the grain, but on the contrary, made a narrow V-shaped crevice in the firm soil below the mulch where the little kernels were dropped, the shoe being followed by a chain cover, left what seemed to be the most ideal condition for quick germination and rapid growth of the plant. We can recall many instances of marked germination and growth. One, for illustration, was in Chase county, Nebraska, in the autumn of 1903 which had been very dry with no rain for nearly a month prior to seeding. We had prepared by our system of summer tilling an ideal seed bed, the soil being absolutely fine and firm up to the loose mulch. In this ideal seed bed the seed was deposited by the closed heel shoe drill. On the morning of the fifth day, practically four days after the seed was put into the ground, the shape of the field could be seen from its green color a distance of two and a half miles, where a little town was located, the field being on a piece of ground sloping towards the town.

This condition was the result of the quick germination of the seed and rapid growth of the plant because of the perfect condition of the seed bed. Had this grain been put into the ground with a disk drill or a hoe drill, the soil would have been so loose, germination would not have been as rapid. The principal cause of the rapid growth was the fine firm seed bed which promoted rapid and prolific growth of roots.

While this shoe drill deposited the seed in an ideal condition when the soil was perfect, yet there were a number of objections to the construction. First, the draft of the machine was too heavy. It took four good horses to handle an eight-foot machine. Second, if there were any corn stalks or other obstructions in the soil, it would force the shoe out of the ground, thus causing an uneven depth of seeding.

The double disk drill overcomes the two difficulties above mentioned. This is especially true of the Monitor drill, as it is made with two straight coulters, coming together in front, thus permitting the establishing of the same V-shaped crevice in the solid soil. In other words there is no loosening of the soil, the tendency being to pack the bottom and both sides. Because of the rotating motion of these disks the friction is materially reduced. We have two of these drills in use twelve feet in width and four fairly good horses handle them with ease.

The real point to be considered in a drill is that of depositing the seed in such manner that quick germination may be promoted, followed by rapid and prolific development of roots. Those who have followed us through numerous articles on the preparation of the soil must begin to appreciate that very much depends upon the condition of the ground where the seed is deposited, not only with reference to the quick germination of the seed, but that of a continued strong healthy growth of the plant to maturity. Just a thought upon this point should convince the farmer that there is some virtue in the drill we are referring to, for after spending much time and effort to get a fine, firm seed bed, it woud be unwise to use a drill that would again loosen up quite a portion of this.

While it may occasionally be true that a heavy rain follows the seeding, this would of course, result in firming the soil about the kernel and the special stress we put upon this point might not be of much avail, but it is also true that not infrequently no rain follows the seeding, especially in the winter wheat section. We have also seen the same conditions prevail in the spring wheat section. Therefore the great point is to do everything as correctly as possible that we may obtain the quickest germination, the strongest, healthiest growth of the plant, regardless of climatic conditions.—Campbells Scientific Farmer.

## HOW TO KILL WEEDS.

Rotation of crops is one of the best ways to get rid of some weeds; certain weeds go with certain crops. We should not sow small grain unless it is carefully screened in a fanning mill to get out the weeds and weaker seeds.

Weeds teach us that we must cultivate better. It is certainly profitable to cultivate corn as long as weeds are there. Weeds cause great loss of moisture and plant food, they reduce the stooling of small grain, cut down the yield of crops, make the cultivation of the field more expensive, and damage hay and other such crops after harvesting.

Weeds aid many plant diseases as rusts, smuts, and blights, and help to increase the insects. If it were not for foxtail, we could cut off much injury by the corn root louse.

Weeds that are annuals may be destroyed by clean cultivation during their early growth and just before they produce seed. It is better to smother the weeds that have root stalks, as many perennials do. If they are cut off even with the ground or deeper the root can exist for awhile, but cannot live without leaves above the ground. Sometimes weeds indicate an acid soil.

To destroy the wild morning glory or bind weed, turn in the sheep or hogs. Keep these vines cut off above the soil for two years and it will kill the roots. If the ground is plowed one and one-half inches deep in the spring and later six or eight inches deep, this will thoroughly kill them in a dry season. Cut down the morning glories and in August plow and harrow the ground, double discing where the weeds are thickest. This has destroyed them all.

Canada thistles may be gotten rid of by cutting them off every two weeks for two years. One man who has had experience with iron sulphate said that it would destroy porous-leaved weeds like mustard, but he thought it would not do for weeds having smooth leaves. He had completely destroyed Canada thistle by three sprayings, with iron sulphate. Burrs have been gotten rid of by putting the land in wheat seeded with clover, mowing the stubble in August, getting a heavy growth of clover and following with corn. The burrs must be killed in August for two years in succession.—Journal of Agriculture.

The coldest night at Yuma, Arizona, was on December 10th when some of the lower sections had a temperature of sixteen degrees below freezing.

## Business Notes

### A VALUABLE EDITION.

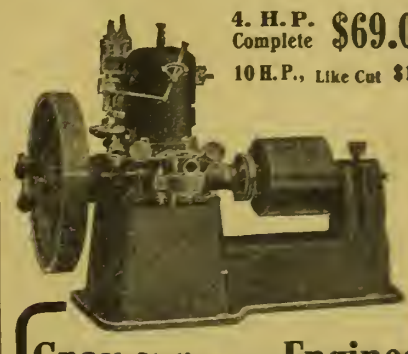
The California Fruit Grower, published at San Francisco, has for many years issued its annual during the month of December. The one for this year bearing date of December 11, is a beauty. It shows a large number of full page advertisements in two colors and one full sheet showing a full sized pineapple good enough to eat. The contents give a general view of the fruit, bean, vegetable, and, in fact, general productions of the state of California for the past year. Mr. Rowley may well be proud of his effort.

### SWIFT CALENDAR.

The Los Angeles branch of Swift & Company, the big meat packers, is distributing a beautiful calendar consisting of four parts which contain the famous old songs, "Home, Sweet Home," "Old Folks at Home," "America," and "Old Oaken Bucket," each accompanied by portrait of its author, scenes connected with his life, and a short biography. On the back of each part of the calendar are the notes for the piano of each song.

Mr. F. C. Willson of the Encinal Nurseries, Sunnyvale, is advertising in the Cultivator his specialties, Willson's Wonder, Willson's Acme, and Franquette walnuts. The Wonder was originated about eight years ago and is bred up from the French "Bijou," improving upon its good qualities and eliminating its bad ones. The tree is a strong, sturdy grower with an abnormally large nut and an exceedingly sweet, rich kernel. Mr. Willson has been testing out this nut for a number of years and so far it has stood all tests, even the blight. The variety is so excellent that we note Prof. Wickson devoted a whole page free write-up in the Press and it must be a very excellent production to call for such a notice. Of the walnuts introduced heretofore, he considers his Franquette the best of the older varieties. A letter asking for circular, prices, and information will be answered at once.

The Gray Motor Company have an ad. in this issue offering a four horsepower engine complete for $69.00. Just the thing for the ranch. This firm makes a full line of gas engines and motors. All their goods are absolutely guaranteed and the Gray Motor Company have the reputation of standing back of their guarantee. For catalog and information write the Gray Motor Company, 125 Leib St., Detroit, Mich., mentioning the Cultivator.

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Fruit Trees, Vines, Berries, Eucalyptus and Roses

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1,000,000 Eucalyptus Trees

Headquarters for E. Tereticornis, one of the fastest, straightest growing commercial varieties. Write for prices.

The Southard Eucalyptus Nurseries

Redlands, Cal.

Onion Growers

Owing to the short crop of onions in Texas and California, early onions will be scarce and high. Plant Crystal Wax Onion Sets now, and market your crop the latter part of April.

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YEAR IN AND YEAR OUT.

Using least fuel
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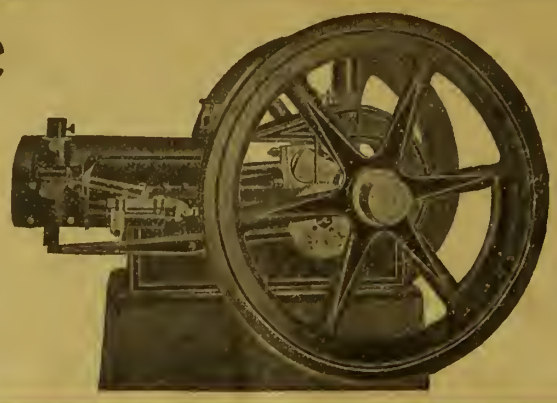

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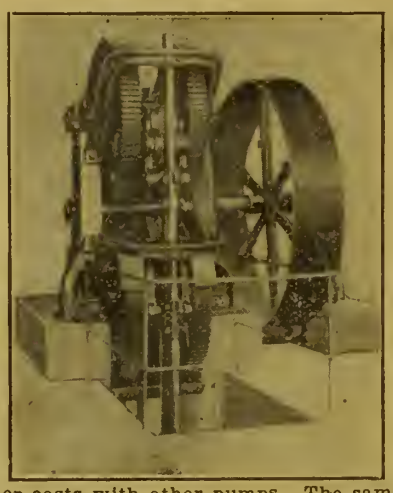

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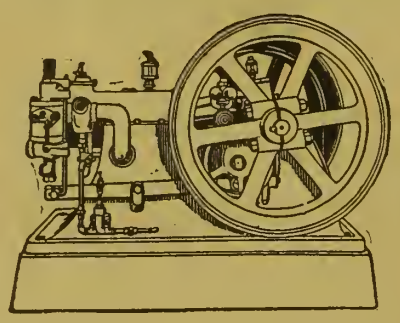

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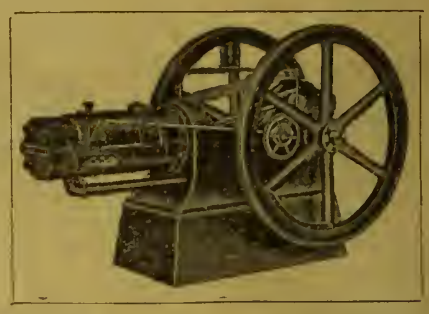

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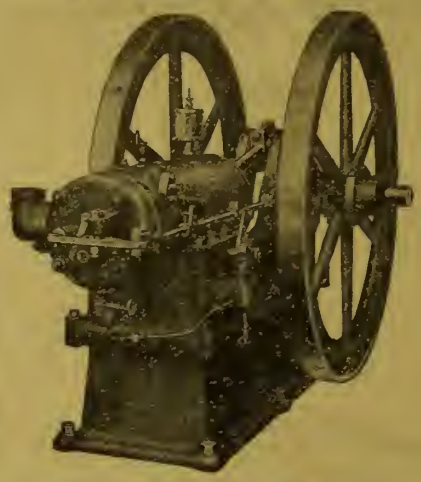

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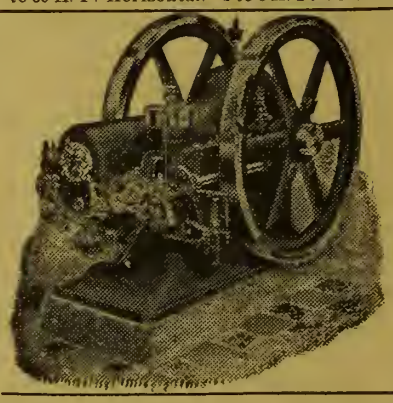

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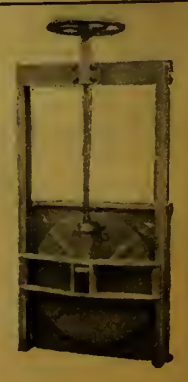

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# California Cultivator

An Illustrated Weekly Magazine, Devoted to the Rural Home and Ranch. One Dollar per Year.

Los Angeles December 30, 1909 San Francisco


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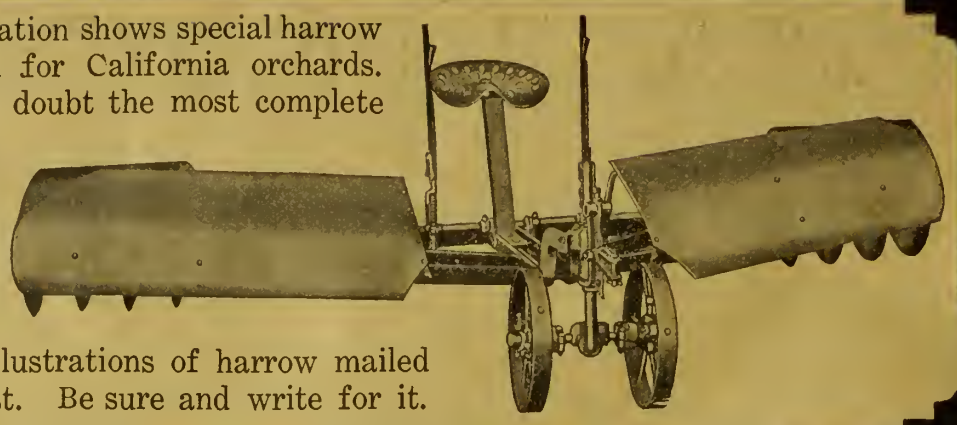

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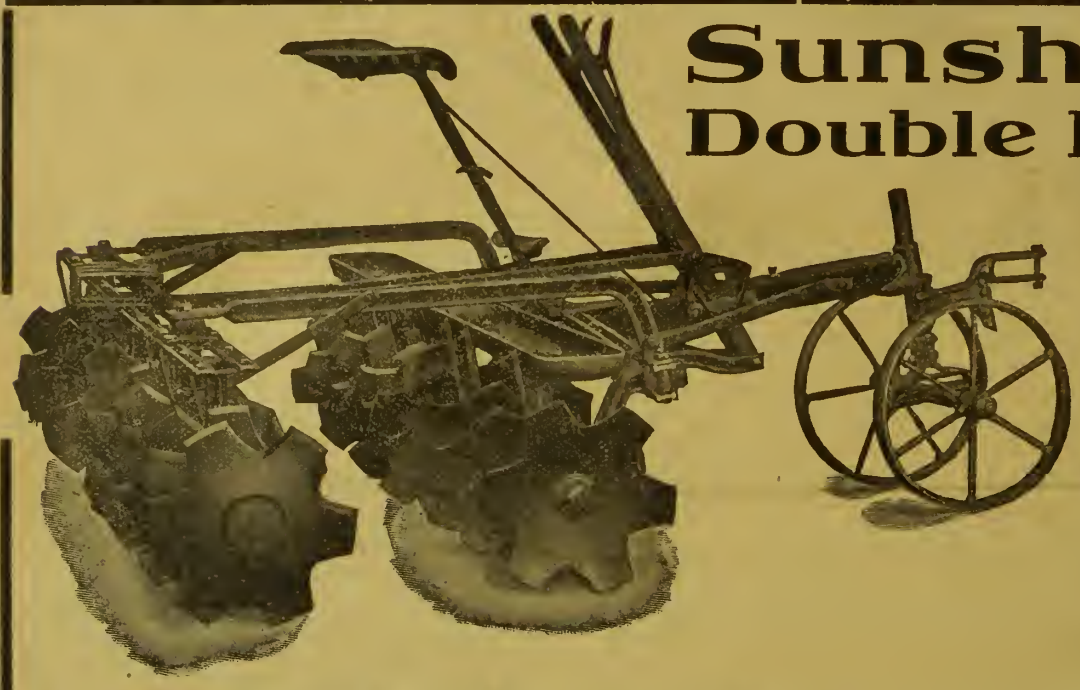

Will thoroughly pulverize and cultivate the soil in one operation, and will leave a level surface.

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**Our stock comprises all profitable commercial varieties of trees and vines—and they are the best that care can produce.**

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**Very Hardy**

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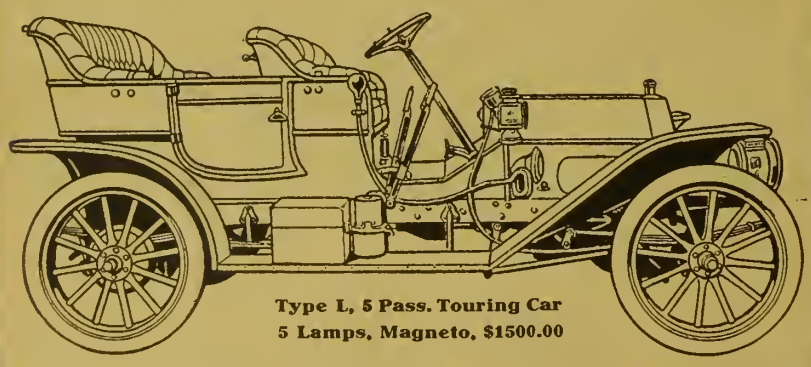

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# California Cultivator

Vol. XXXIII—No. 27 Los Angeles, California, Thursday, December 30, 1909 Subscription $1 a Year

# The Pre-Cooling of Fruit with Dry, Cold Air

## An Address on Preparing Fruit for Shipment by Geo. D. Kellogg of Newcastle before the State Fruit Growers Convention at Watsonville

REFORM and Progress have become the watchwords of the California fruit men. It is a well known fact that a slight bruise, or abrasion on any fruit will affect the keeping quality of the same. To offset this injury up to date growers will install padded picking baskets or buckets during the coming season; springless wheel sleds will be discontinued, and vehicles with springs wil be used in their place, to give ease of carriage. The frequent dumpings from the tree to the packing shed will be eliminated; and the farewell to the old dead axle wagon between the packing shed and the shipping house will be sounded. The standardized pack, with correct comprehensive markings upon the package, under the supervision of a competent corps of independent inspectors will be a reform of great consequence, bringing increased reputation and standing, as well as additional dollars for our California fruits.

All this, and still there stands before us the great problem of how to get this fruit into the eastern markets in such condition as to command the attention and admiration of the consumer. Refrigeration has been tried and under the old system has proven a help—though expensive. The crying need is for something better.

The Agricultural Department recognizing the great importance of the fruit industry, detailed their expert, G. Harold Powell, as Pomologist in charge of fruit transportation and storage investigation. This worthy official came to Newcastle in the summer of 1905 and began his investigation and experiments, and the taking of valuable notations. He improvised a cold storage car and after holding the fruit for twenty-four hours or more it was transferred to another cold car and shipped to the Atlantic coast. This experiment was conducted during the extreme heat of an extreme season and proved beneficial. These experiments were conducted from my office, with the co-operation of the fruit shippers of Newcastle. We had free access to the valuable data obtained from Mr. Powell's observation and notes. Frequent discussions led us to believe that if the fruit could be pre-cooled by the single box before placing in the car, quicker and better results would be obtained. Mechanics of inventive talent, experts in refrigeration and those having experience in handling of fruit were consulted. The situation was studied, and the conclusions reached from observation, that fruit shipped under ice with no previous preparation was inclined to arrive at destination damp, and this dampness would create a mould that would be injurious to the fruit. It was also demonstrated by the Government experts that ripening proceeds much more rapidly when a fruit is severed from the tree. so that it comes nearer the point of decay in a few hours or days than it would if left hanging on the tree in the same temperature for a much longer period; therefore the ripening must be checked as soon as possible after picking, to prevent premature decay.

The conclusions reached were these:—The successful transportation of perishable fruits in refrigeration depends primarily upon the sound condition of the fruit; upon cooling it as soon as possible after it has been picked; on shipping it in packages which cool quickly throughout; on a dry, pure, cold air, uniformly distributed in the car or compartment, and on a free circulation of such air throughout the packages, and this cooling process should not cease until the pit or center of the fruit has been as completely cooled as the surface.

With these ideas, and to reach the results sought after, a unique, and practical machine was invented which conveyed single packages of fruit through insulated compartments through which a stream of dry cold air was forced, and the fruit thoroughly cooled to the center, and to any desired temperature. This was done by the ammonia process instead of with ice. From this machine the fruit was landed in a cooled room, vestibuled with a pre-cooled car, this car was loaded, closed and shipped through to destination with the initial icing. Cars so treated will carry to any market in the United States without re-icing, and will arrive dry and in souud condition. At least that has been my experience and observation from shipments of fifty-seven cars pre-cooled by this process during the season of 1909, a season of scarcity of cars and poverty of ice. Of the fifty-seven cars thus treated there has been but one claim made for loss and damage in transit, and that was in the case of a car precooled on Saturday and left standing in the open air until the Tuesday following waiting for a car to come to be loaded into. Three days in the heat nullified the pre-cooling, I suppose. I shipped an equal number of cars during the season that were not pre-cooled, and there have been many claims for damage made. The time it has taken to reduce the temperature of these cars has been as a rule from one and a quarter to two hours. I experimented with cars in which the fruit temperature had been reduced from seventy-six degrees to from forty-four to fifty-five degrees, while the open air temperature would be ranging anywhere from seventy-five to one hundred in the shade, and fruit was received at destination without complaint. These statements may be verified from the files in the office of the California Fruit Distributors in Sacramento, through whom all my claims on loss in carloads are made.

With but two exceptions did I make known to the consignees what cars were pre-cooled, and what were not, and no attempt was made to get special reports upon the car. I took this method that I might know the facts, for my fruit is usually sent to the f. o. b. markets, and if it arrives without complaint and the draft is paid with no grumble from the consignee, it becomes prima facie evidence to the shipping fraternity that the condition of the fruit is above suspicion, and when the fruit is delivered to the auction and sold at the best price with no one to "boost" the sale we are ready to accept the theory that the fruit was all right.

COCKING HAY IN IMPERIAL VALLEY.

In one instance I advised the consignee in New York, that a certain car was pre-cooled, and asked him to note its condition. This car sold at top price and the returns came back with the notation from him that "pre-cooling was all right." On another occasion I requested consignees at Minneapolis to note conditions of a pre-cooled car and the following report was received from them: "Green fruit from Newcastle, Cal., received by us this morning. Peaches and plums were in splendid condition, being firm and dry, and did not develop sweat after unloading, although the day was quite warm. We believe that your system of cooling fruit before it is loaded into the car will place the fruit on this market in much better condition than the present plan of icing cars and loading the fruit while warm. Wishing you success in your efforts, to improve conditions in the fruit business, we are, sincerely yours, Longfellow Bros. Co."

On August 27th, one of the hottest days of the season I loaded a mixed car of peaches and grapes, pre-cooled, into a car that was cooled by being vestibuled to the cold room, with no ice. On September 7th, the car was sold in Minneapolis auction the 12th day from the picking, and this car of peaches and assorted grapes was sold for $875.00, being the average price paid for fruit in market that day. Note that this car was not cooled by ice, was not iced en route and was in condition to sell at average price. The cost of refrigeration was only the cost of the pre-cooling. The cost of hauling five and a half tons of ice was saved the transportation companies, and the expense of holding the trains, for five or six icings was all saved so far as this car was concerned; all matters of great consequence to the railroad operating departments, which if they could be applied to whole train loads would mean many hours of time saved in transit of the trains, to say nothing of great bunkers of ice, and the expense of hiring many men.

These fruit meetings are not so much for hearing theories as facts. California fruit men are facing active and intelligent competition from many states in the Union that have the advantage of hundreds and even thousands of miles of hauling over us. We have the quality, size and beauty, if our fruit is allowed to mature before picking, is properly selected and packed and displayed before the buyer, free from mould or moisture. With what is known as a postage rate of one dollar to the markets of the east, as some fruits are hauled, the California fruit grower can meet all competition.

I have demonstrated to my own satisfaction that the best results can be obtained only through the pre-cooling of the fruit, each individual package being treated and cooled alike to the center or pit before loading in the car, pre-cooled with dry pure air removing all moisture from the fruit. If so treated, I am satisfied that an initial icing is sufficient to insure good delivery.

# TREES

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**ARMSTRONG NURSERIES**
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You cannot extract sunbeams from cucumbers nor blood from stones, nor good crops of fine oranges and lemons from inferior trees. A poor tree is an expensive experiment entailing only vexation of spirit and a dwindling pocket book. Then why experiment with stock of doubtful quality? Why not get the best and be sure of the future? For 20 years we have been supplying the people who grow good citrus fruits with their trees in every citrus growing section of the world, and stand ready to serve you equally well. Why not write us and let us become better acquainted?

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# Citrus and Sub-Tropical Fruits

## MANURING FRUIT TREES.

By W. F. Sutherst, Ph. D., F. I. C., Bishop, Cal

FRUIT TREES, like most of our cultivated crops, are entirely artificial productions, consequently they cannot be expected to grow and flourish naturally like wild vegetation; they are often grown in a climate and soil which are entirely foreign, so that artificial aid must be applied in order that they may carry out their intended object. This is done in the operations of soil cultivation, manuring, pruning and budding. The two first will be considered in the article.

Plants take up substances out of the soil not just in the proportion as they exist there, but by a peculiar selective process, carried out by the roots, use more or less of the soil ingredients suited to the growth of the species. If this were not the case, then there would be very little occasion to apply fertilizers to the soil. When we bring a plant into a strange soil, it probably finds all the necessary mineral matter there for a while, but after a time, one ingredient which it uses up more than another, becomes exhausted and as a plant's growth is determined by the ingredients present in the smallest quantity, just as the speed of a fleet is fixed by the slowest ship, the growth gradually dwindles down to nothing. In districts where intensive cultivation is carried out, the usual method of remedying this occurrence is to add artificial fertilizers containing just the substances missing in the soil. This is by no means a rational method, except when carried out by a scientific and intelligent farmer, the wisest course being to assist nature in her methods of soil recovery.

Trees generally are the last to feel the need of manuring, as their roots penetrate deeper into the soil than cereal and other crops. The subsoil into which they penetrate is of course not so fertile as surface soil, but the quantity of mineral plant food is not so far behind that in overlying portions. The main object of these tap roots is to get water, which is naturally more abundant below the surface, but this water must contain a quantity of plant food dissolved, as it not only exerts its solvent action near the roots, but also is able to move about easily from one place to another, thus transporting mineral food from a distance to the region of the roots.

The first few inches of any soil, more particularly a cultivated one, are more fertile than any other part, this being due to the more intense action of the weather, rain falling on it and only penetrating to a short distance in most cases, bringing with it certain nitrogen salts formed in the air. It is also due to the natural and artificial manuring it receives and cultivation, as implements generally work down to a few inches. Then of more importance, the bacterial life only exists near the surface, i. e. if the conditions of sufficient aeration, moisture, food to live on, be present. A surface soil might be as fertile as possible, but if no water be present to enable a plant to draw this food supply into its system, the conditions might just as well be the reverse as regards the growth of the plant. The object then is to maintain sufficient supply of water in the surface soil and if this be attained, then the roots will soon remain there and utilize the store of food thus placed at their disposal. In a dry region, it is usual to irrigate around the trees, but frequently a very large supply of water is applied at once and the result is a washing away of plant food and destroying bacterial life, and caking the surface soil so that no air can penetrate it.

One of the best means to keep roots near the surface is to spread farmyard manure around the trees; this acts in several ways, very beneficial to the growth. First it has a great retaining power for water, holding it like a sponge, but giving it up gradually to any drier substance in contact with it, such as the underlying soil, then it has a quantity of plant food which also gradually passes into the soil, thence through the roots into the tree and finally it teems with bacteria whose work is to split up the complicated plant and animal refuse into simple substances capable of dissolving in water and being taken up by the roots. If little rain falls in the district, then surface irrigation can be carried out and the manure will absorb the water and prevent it acting in the injurious manner mentioned above. At the base of any tree trunk there are always a number of dormant "root-buds" ready to develop when favorable conditions arise, however old the tree may be, so that it is never too late to apply this method of manuring and encouraging the growth of the roots near the surface. Another method, but more laborious and not so good, is to keep the surface well cultivated by continued plowing and harrowing; this certainly prevents water evaporation and aerates the soil, but the real growing area is deeper than when manure is spread over the surface and consequently of less fertility. Of course artificial fertilizer could be applied and plowed in, adding that particular one which the crop takes out of the soil in the greatest quantity.

To sum up, however, it is, I think preferable to let the tap roots look after themselves and encourage the side roots to keep near the surface and make use of the store of food naturally existing there for their use.

* * *

It must be added to Mr. Sutherst's article that some of California's best orchardists will not agree with him in actual practice. Shallow culture and surface rooting may look good in theory, but the deep rooting forced in many of our thriftiest orchards by deep culture has given California some of its most productive orchards.—Ed.

## FUMIGATION.

From a paper read by C. E. Bowman of Tustin before the Santa Ana Farmers' Club we quote:

"The fumigation of citrus trees was introduced into Orange county about twenty years ago by Dr. Wall and Mr. A. D. Bishop. These gentlemen spent large sums of money experimenting and the present successful method is due largely to their patience in keeping up the experiments. If no other way of destroying insects had ever been used, the trees of this county would be in better condition than they are today. Many different kinds of insects infest orange and lemon trees, but the worst foes they have are the purple, black and red scale. These can be destroyed by fumigation. The best time of the year are, for black scale during January, February, July and August, the red scale can be destroyed at any time, and the purple scale, which is the worst of all, from July to February.

"If you will take notice, you will find trees which have not been fumigated, have a lot of dead brush on them. These dead branches should all be bearing fruit and would be if the trees were properly nourished. Some people say that fumigation is a fertilizer. I am not prepared to say that, but if you want clean fruit, better fruit and more fruit, fumigate your trees every year or two and you will find it will pay you to do so, because the market demands the best, and California can and should supply that demand. Many oranges are shipped as standards, whereas they would go as fancy or choice if they were clean. The time is coming when only the best fruit can be sold and the law will compel people to keep their orchards clean. I do not anticipate any compulsion, however, as American people do not need to be driven into any good thing.

"You know it does not take many boxes of oranges to pay your fumigating bills. I realize the fact that it is expensive, but help for that kind of

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1 part Taylors Hydrated Lime
3 parts best Resublimed Flowers Sulphur ..... mixed in a common mortar box

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**Red Spider of the Orange**

Hydrated lime is the ideal diluent and vehicle for the sulphur—and reduces the cost.

$15.00 a ton net in 100 lb. sacks. Sacks 15c extra.

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Phones: Sunset, 8x4. Home, Red 31, or
L. C. Rice, Tropico, Cal.
Phone Sunset Glendale, 262

"As is the bird, so is its song; as is the man, so is his manner of speech."—Latin Proverb.

work costs more than common work does. We want the most reliable men we can find and that kind of men are not always looking for work, and hoping they may not find it, but of course they have to be well paid for it. Then, too, the exposure night after night is not the best thing for any man. I noticed an article in the Los Angeles Times a few months ago that made me think fumigating bills were small. The town of Newton, Mass., is spending this year $200,000 in control of the Gypsy moth. We hope this pest will not reach California.

"Two years ago our United States department of agriculture sent Messrs. R. S. Woglum and Frederick Maskew to investigate the subject of fumigation in the Southern California counties. They have instituted a new system of dosage which we used in our work during the past season. It is too soon to tell just what the results will be, but we think it satisfactory, and we hope to do better work next season. Years ago it was thought that only heavy oiled canvas was fit to use for tents, but experience has taught me that the lighter canvas is better because when the tent is dragged over sandy soil and the night is the least bit damp, the sand will cling to the canvas and often scours the fruit which is exposed on the outer edge of the tree. Experts are now experimenting on making a canvas which will give better results.

"Sometimes growers ask me whether their orchards need fumigating. You know I am a fumigator, always have been, and as I come from Missouri I will be until I am shown something better. The best argument I can use is to tell you that the growers of Tustin, who are my neighbors, and who have the best looking orchards and get the best returns from their orchards each year practice fumigation. We have a horticultural commissioner who is capable of telling you what your orchard needs. Call on him each year to inspect your orchard. and if he advises you to fumigate just take his advice and you will not regret it."

## OLIVES AS BIG AS EGGS.

Olives almost the size of Guinea eggs grown by Thos. Jacob of Visalia. The olives on six trees sold for $100 a ton on the trees. The trees are about six years old and have netted Mr. Jacob about $6 a tree; when they become ten years old they will probably fetch an income of $10 a tree and increase as the trees get older. Olives are known to grow forever almost and many are now to be found in the Holy Land, which flourished 1909 years ago.

The tree is a good bearer.

It has its off years like all other varieties of olives, but as a money-maker I can see no reason why it should not be grown largely as a side issue at any rate.

This variety is grown in California under the name of Sevillano, but this supposed Sevillano varies in size.

"Mr. Jacob seems to have the best strain of any of the Spanish Queen olives I have ever seen," said Charles A. Chambers.

"Mr. Jacob attributes the large size of his fruit to the trees having been budded on the wild Picholine variety, a very strong grower furnishing a vigorous root system that gives his trees vigor.—Fresno Herald.

Professor Whitney, of the Bureau of Soils, says that humus acts as a sponge in the soil and absorbs toxic poisons which are given off by the plant roots. However this may be the farmer must add humus to his soils to make them produce good crops. There are several ways in which humus is increased in the soil. To make the matter clear to those who do not understand what humus is it might be well to state that humus is the dark-colored mold left after organic matter or vegetable matter has decayed. Then in the light of this explanation farmers will understand that any organic matter turned under and allowed to decay will form humus. Barnyard manure, straw, stalks, etc., the plowing under of green growing crops, such as clover, cowpeas, rye or any other crop used generally for green manuring will add humus to the soil.

**Rex Lime and Sulphur Solution**

**The Famous Insecticide and Fungicide**

It has been found that Rex Lime & Sulphur Solution used in the early part of the season is as effective for Blight as the Bordeaux Mixture, and it does not have the injurious effect upon the tree as Blue-Stone. In Oregon and Washington the use of Bordeaux is being entirely eliminated and lime and sulphur solution used for all purposes. The leaves are falling from the trees, and especially the Peach, Almond and Apricot should be immediately sprayed for the first spraying. The second spraying should be done on all trees just before the buds open in the Spring.

Rex Lime & Sulphur Solution is a guaranteed article; properly prepared; free from sediment, and as cheap, if not cheaper, than the farmer can make a mixture himself.

For particulars inquire of your dealer or write to the factory at

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On California Black Root. Also

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We have 200,000 trees of various varieties just the proper size for fall planting. We would advise that you place your order early, as there are very few trees to be had at this time of the year.

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**Liquid Sprayer**

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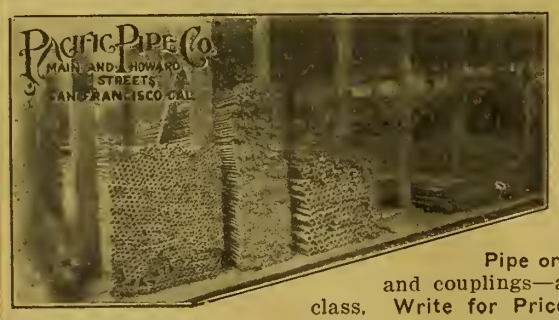


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# Deciduous Fruit Culture

## ALMOND CULTURE.

By J. W. Mills.

CLIMATE is the ruling factor in almond culture and must be first considered when planning to plant an almond orchard. An ideal situation is one where the winter months remain cold with no spring weather interspersed, and when warm spring weather does commence there should be no frosty spells. Locations where these conditions prevail with no exceptions have never been found to our knowledge, but there are locations where such conditions prevail with few exceptions. We would expect to find such a climate in a moderately high elevation and so we do, as in the branch of the Mohave Desert known as Antelope Valley. It is not unusual, but quite common for snow to cover the west end of the valley for a time in the winter, but occasionally sharp frost occurs during the blooming period.

That particular portion of Antelope Valley has become noted for its extra fine quality of almonds, but unfortunately the soil is a dry one in most places and irrigation from wells is not practicable owing to the great depth at which water is found. The total absence of fog or damp weather at the time of ripening results in an extra fine quality of nut. The absence of irrigation water spoils the combination and prevents the development of the industry. We cite this as an illustration of how the lack of one factor spoils the whole plan.

Situations where late frosts occasionally injure the crop but where moisture is abundant either naturally or artificially applied, are more desirable than situations entirely free from late frosts, but devoid of a water supply, for almonds do require a generous supply of moisture in order to set a good crop of fruit buds while maturing a crop of nuts.

It is impossible for almond trees to develop a good crop of fruit buds at the same time they are maturing a crop of nuts unless the trees receive enough moisture to force a new growth. You cannot expect your trees to be in the condition to produce a crop every year unless these conditions prevail, for all the fruit buds on the almond must grow during the summer preceeding the winter in which they bloom.

### Stock.

Almond root is the proper stock on which to bud the almond. The hard shell and bitter almond are the best. They make a strong and vigorous tree.

One year old trees are the best; select those with many branching roots. Never plant a tree without strong tap root having no side roots, for you will only have the disagreeable experience of seeing it stand dormant all summer, neither, top nor root making a growth worth anything.

Almond trees should not be planted closer together than thirty feet. Twenty-five feet will be sufficient for many years, but the almond is a long lived tree and grows to be very large, especially the hard and soft shell varieties, sending their branches out in horizontal directions. Golden State is an exceedingly strong grower and at ten years from planting will spread thirty feet in good soil. The paper shell varieties may be planted twenty-five feet as they are not so vigorous and with the exception of Drake's Seedlings, are upright growers.

### Pruning.

Almonds should be pruned like peach trees till they are about three years old or else not pruned at all after planting except to cut back some long ungainly branches. Much pruning will cause the tree to grow too thick and consequently set little fruit in the inside.

Unpruned trees will form naturally branching trees that will look rather scraggly when young, but will be well shaped when matured. If pruned when first planted, the idea to keep in view is to form a well branched head, spreading the top as much as possible. After this is accomplished, prune no more except it be to thin out the branches.

### Diseases.

Shothole fungus is bad if allowed to go unchecked. Prune rust is another bad disease and will sometimes entirely defoliate an almond grove before the nuts are matured. Red spider is the worst insect pest on the almond and will in time ruin the crops if not prevented. Lime, salt and sulphur wash will almost entirely rid the almond of all these pests if properly used. Add five pounds of blue stone to every fifty gallons of wash. The combination will be death to the two fungus diseases.

A supplementry spraying with Bordeaux mixture after the leaves are all out will head off most of the hold-over seeds of the fungus, and dusting with sulphur will keep the stragglers of red spider from increasing.

### Harvesting.

The almonds should not be gathered till at least 90 per cent of the husks split open or are dried. Sheets large enough to cover all the ground under the largest trees, should be used to place under the trees, one on each side and lapped in the center. The nuts are knocked off with poles and the sheets dragged to the next tree and so on till they are full enough to fill several boxes.

The nuts are placed on a large table within 24 hours after picking, after having been run through an almond huller. If the nuts are allowed to stand in picking boxes too long they will dry out on top and be hard to hull and will sweat and discolor the nut in the center and bottom of the boxes. At the table, the hulls and nuts are separated by hand and all stick-tights are cracked and the kernels saved.

The nuts are sprinkled and sulphured just as dried fruit is, in order to give them a nice color. The process ruins the flavor of paper shell varieties, but does not injure the soft or hard shell almonds.

## PRUNING THE VINEYARD.

GRAPE pruning is now in order, some growers being already engaged in the work. This work can be done any time after the leaves ripen or are frost bitten. Early pruning has a tendency to promote an early growth in the spring, and if the pruning is delayed until the vines bleed bady, the vines will be late in starting. This plan is sometimes followed by small growers with an idea of escaping late frosts. It very often happens that a frost that will kill the tender growth, will be missed by late pruning. While it is not practical for the vineyardist with a large acreage to delay pruning till late, a small vineyard may very well be handled that way. As a general proposition, it pays best in the long run to prune whenever it is most convenient. It quite often happens that late pruning so delays the working of a vineyard that it is impossible to get the land in proper shape.

### Principles of Long Pruning.

Some vines are pruned long because they require an extra large head of vines to offset the vigorous root growth. Others are pruned long because the bearing capacity is reduced if pruned short. The Thompson Seedless is not a rank grower on some soils but it will not bear well if pruned short. One of the chief advantages of long pruning is the opportunity given to properly train the vine. It is an old and well recognized fact that if the circulation of the sap is restricted in any way, the plant immediately proceeds to throw out fruitwood. Baronio worked from that idea when he revolutionized the pruning of the lemon in Southern California. Some varieties of grapes

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that will bear only light crops when pruned long and tied straight up to a stake, will bear heavy crops when the canes are bent severely between the nodes and forced to grow in the opposite direction from which they would naturally. This principle has been explained and demonstrated by the viticulturists of the state university and those following them have been much benefited.

**Disposal of Prunings.**

The old method of hauling out the prunings and burning them in piles is now quite generally displaced by the iron sled on which the grape prunings are piled and burned, leaving the ashes to scatter over the vineyard as the sled is hauled along. It is now suggested that the best method to pursue is to cut the prunings in small pieces with a hay cutter and drop them in the vineyard. This is an effective way of adding humus to the soil without the inconvenience of growing legumes. The process is simple and conveniently executed. We had some experience in this work at the old Chino-Pomona Experiment Station. An ingenious neighbor fixed up an ordinary hay-cutter on a sled and hauled it around the country cutting up orchard prunings for fuel. It was run by hand power, one man running the cutter. Brush up to an inch in diameter was cut into inch or two inch lengths.

Such a device fixed up on a vineyard truck and operated with a small gas engine would do the work almost as fast as burning the brush on a sled. The short pieces will rot in one or two seasons and in any event will not interfere with working the land, being too short to clog in the toothed cultivators and not numerous enough to prevent the disk cultivator from entering the soil.

No doubt this method would partly solve the sand drifting problem in the vineyards in the Cucamonga and Wineville districts. In some of the grape growing districts of the old world where drifting sand covers the vines, straw is spread over the ground and pressed part way into the sand by running disks over it set to run straight. This makes the ends of the straw to stand up straight like grass and thereby catch the sand and prevent drifting.

On heavy soils this method of disposal would improve the physical soil condition as much as it would that of the light soils.

No doubt this method of disposal of grape prunings will not become popular for the reason that it requires special machinery in part of the equipment. In order to handle the prunings rapidly, there should be a force feed that will put the vines through, no matter how hadly arranged or. bulky they may be.

### REPORT OF COUNTRY LIFE COMMISSION.

Arrangements have been completed by the Spokane chamber of commerce to print for free distribution the report of the Country Life Commission, appointed by President Roosevelt in 1908 to make a tour of the farming states for the purpose of investigating conditions and calling the farmer's attention to the opportunities for modern business methods and better living on the farm. The request to publish the findings of the commission and the president's special message transmitting the report came from a meeting of 500 men and women, representing various districts in the western and Pacific states, gathered in Spokane to discuss country life problems and rural school betterment under the joint chairmanship of David Brown and Edwin A. Smith.

The commission's report was read in the United States senate on February 9 and ordered to lie on the table, as the result of the opposition by Senator Tillman, who objected to its publication as a public document for the reason that the commission was appointed by President Roosevelt without authority from Congress; that it is not provided for by law, and that it has no legal function. Senator Dolliver spoke at length in its favor.

### THE EL CAJON VALLEY.

I notice in your issue of the 2nd inst. a communication from one W. W., El Cajon, in which the statement is made: "It gets very hot in summer, temperature standing from 100 to 120 degrees in the shade." The inference is of course that the regular temperature of El Cajon Valley runs between 100 to 120 degrees during the summer. Now I don't know who W. W. is and don't particularly care, other than to believe that he is a wonder with a mammoth imagination, bent on giving the finest and best climatic valley in the state of California a very black eye, to those unacquainted with its climate.

We have a record of temperature and rainfall of this valley for every day during the past ten years, and in no case in that time has the temperature ever exceeded 110 degrees. Five days only in 1908 reached 100 degrees, towit, July 7, 8 and 9, 100, 105 and 103 degrees respectively; Sept. 10, 100 degrees; Sept. 12, 102 degrees. In 1909 six days reached 100, as follows: May 31, 106 degrees; June 1, 100 degrees; Aug. 21, 107 degrees; Sept. 14, 15 and 16, 101, 105 and 103 degrees. So during the last two years the highest temperature recorded by the government maximum thermometer was 107 degrees, and that only for one day.

I don't understand why W. W. should go to Los Angeles for information about walnut growing. If he had made proper inquiries he could have been satisfactorily answered by residents of the valley. I have some walnut trees on one of my ranches which yield fine nuts every year, and that without irrigation.

I write this in justice to El Cajon Valley, where you have a large subscription list, and in the interests of truth.—Phil J. Kessler.

### PRIZE WINNERS.

H. B. Tronson of Eagle Point, Ore., where he and his partner, E. F. Guthrie, have been orcharding about three years, becomes the quality apple king of America by winning the sweepstake of $1,000 with a car of Spitzenburgs at the second National apple show in Spokane, November 15 to 20. His exhibit of 630 boxes, selected from a yield of 2,800 boxes in a five-acre orchard of 17 years' old trees, also won the first prize of $250 in its class. W. W. Sawyer of Sunnyside, Wash., was second in the sweepstake, winning $500, and took the first prize of $250, for any standard commercial variety, not named, with a car of Grimes' Golden apples. The awards were made by a board of five judges, headed by Professor H. E. Van Deman of Washington, D. C. His associates were George J. Kellogg of Lake Mills, Wis., W. J. Green of Wooster, Ohio, A. P. Bateham of Mosier, Ore., and H. M. Dunlap of Savoy, Ill.

"Did you have a pleasant time at the picnic, Ronald? I trust that you remembered to Fletcherize and masticate each mouthful one hundred times." "Yes ma'am I did an' while I was chewin' my first bite the other boys et up all the grub."—Denver Field and Farm.


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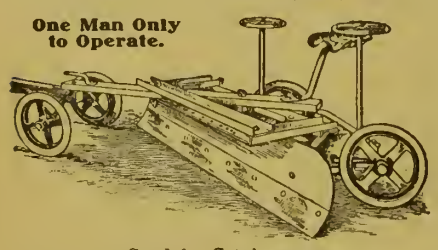

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At Portland Union Stockyards a fancy steer commanded $25 per hundred, or a total of $325. This is $7.00 per hundred higher than the highest price at the International Stock Show at Chicago. This was for a California animal.

# Live Stock and Dairy

Dairymen and stockmen are requested to write of their experience. Mrs. Sherman is always willing to answer queries and this, with experience of other workers, will make this department of greater value.

## HOLIDAY TIMES.

Mrs. M. E. Sherman.

THE world's thoughts during Christmas time turn to love, to love expressed to members of the home circle in gifts. If love could be weighed in material scales Uncle Sam's mail would indeed be weighty during this time. Love in the highest sense is the only thing worth while and only as we love God and our fellow beings do we reach any success worth while in life. Then do not sigh and think that the flurry at Christmas times is not worth while. It is worth while to bring back the slowly hardening heart to the happiness of childhood's bright Christmas hours. I wonder if any one in California has ever tried the plan of adding one more gift to their list? A gift for the home! I know a family that now gathers together four generations, that has for fifty-one years followed this custom. This home is rich in choice rugs, paintings and even sculpture. It has also, rare old china and silver, gathered bit by bit. The library contains interesting as well as rare boks. Contempoary magazines are given for a year by even the school children. There is only one limit put on the gifts—that is they must express the thing the giver feels needful that is within his means to give.

### The Farm.

What Christmas joy can be given to our lesser brothers, the dumb animals? Not much to be sure, but we can see that they have cleanness, shelter and abundant water and food. Hanging green garlands and gay bunting in a stable, as I have read of some enthusiasts doing, would bore the cows considerably. It is amusing to see that conventionality—or the accustomed—seems to be the only idea of Madame the cow. Changes disturb her greatly. I read the other day that in a certain section of the country the dairymen followed the practice of having the milkers take the cows in rotation so that in the three strings each man shifted up one string at each milking time. In Scotland I saw them doing the same thing, but there they said it was to prevent the poorer milkers from always milking the same cows. An appropriate present to the cows for Christmas is a ton of oil meal to be given in half pounds twice a day until the storms have passed away.

### Petting.

When the cold rains begin, the outside cattle and horses need looking after every day. A few small corrals with a warm little stable where any that are thin and weak can have extra feed and shelter should be provided. The old law of survival of the fittest will keep the species alive but wipe out the improved qualities in the struggle for existence. We see this in the human family as well as in animals. When it is a matter of working to keep alive instead of having a margin of strength to improve the mind people degenerate very fast. The constant call for draft horse stock should stimulate the farmer to better efforts to fill the demand. The ordinary ranch fails, with the best of ancestry, to hold the size of the drafters up to 1800 or 2000, because the weanlings and yearlings are allowed to lack for abundant food and protection. I can take two pure bred Percheron colts from mares weighing 2000 pounds, turn one out to pasture after weaning and put the other into winter quarters, that is, in a small corral with other weanlings, and feed them hay with the silage the cows leave in the mangers. This with a snug shed closed on three sides for shelter will increase the size markedly. At two years old they will be as large as the others are at four. The others turned out to gather their food will rarely reach more than 1600 pounds at maturity, while the sheltered colts will come up to the full weight of their dams. The sheltered colts can do considerably more at three years old and are ready for a heavy day's pulling at four. The lesser ones are not ready to go to work much before they are four. Quick and continuous growth should be considered as most valuable in live stock. A check is rarely taken up again in their growth. I had one thorough-bred mare, whose yearling took a bad case of distemper and for a year never grew at all, then by care started to grow, but was six years old before she weighed 1150 pounds. Her full sister a year younger, at two and a half weighed 1120 pounds, was so much larger that it was not possible to use them together until the older one was six years old. Then they matched so perfectly that no one but Pat and I could tell them apart when turned out in the corral. The foreman was sometimes called to hitch them up in the family surrey and was never sure he had them right until he started them off and if they crowded each other against the pole he would change them around.

### Brood Mares.

When the mare and her colt are turned out in the rainy season to pasture, it is well to see that the food of the mare is producing enough milk for the colt. If she is dropping down in milk, bring her up, and if the colt is old enough wean it and put in the pen with the old weanlings. The mare can then go to work, but before starting her in, if she is at all thin, give her a few feeds of bran, gradually adding rolled barley to it.

### Mash.

Can you make a bran mash? Like coffee, mashed potatoes and a few of the every day things, the average furnished is not of good quality. To make a bran mash take a clean bucket, well scalded out, and put in the measure of bran. Then pour into the center, stirring all the time, scalding water enough to make it moist. Cover it closely while hot with a blanket and let it stand three or four hours until cold. There are many times when a cow or horse is sick and weak and needs a bran mash. The usual proceeding is to use any old bucket and some hot water. A handful of bran is stirred into a slop and scalding hot it is put under the sick animal's nose only to be rejected. It should be cool or cold and only moist enough to hold together when pressed in the hand. Then add a little salt and it is relished by the sufferer.

### Thinness.

The heifers that do not put on fat readily make the best milk cows, but they also will suffer the most from cold and wet. Go over the young stock day by day, picking out those that are losing weight and care for them carefully. Do not overlook the dry cows in this work. Many cows die in the springtime when they calve from the debility caused by lack of winter care. Now if there is silage in abundance it will take the place of grass and save the buying of expensive bran.

### Friends.

The little colts and calves raised together in the corrals seems to have an affection for each other that lasts. We had last summer a five months old heifer that became troublesome by a trick of crawling under the fence along the canal. In summer time it is almost impossible to put a post into the ground on the heavy

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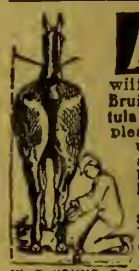

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land of the ranch. This heifer was turned out with the string of youngsters down in the field. She remained always alone and it was necessary in the daily counting to hunt her out of the bushes. I do not believe she will ever make as good a herd cow, as she has now the selfish habits of an only child, and lacks the community training needful for good citizenship. The young stock is usually sent out in bunches. At present there are five heifers that have remained friends for two years. The horses are the same way and the colts that are raised from weanlings in a pen together often hold that friendship for life.—M. E. Sherman.

## WHEN TO BUY A GOAT.

By Miss B. A. R.. Stocker, San Luis Obispo.

WHERE a thing can be had at any time, by anyone ready to pay for it, the old maxim, 'Don't buy a thing till you want it,' probably holds good; but in the goat market it is different. We have got to look ahead. Chances are to be taken when they come; and this is not every day. When we start out to provide ourselves with a goat, our idea is probably to enjoy the milk immediately. But a little reflection may give us patience to take the better way. People frequently write for a doe 'just fresh.' Consider that a goat who when fresh is perhaps giving her own weight in milk every twelve days, must be carefully fed and handled, kept serene and comfortable, and milked regularly three times a day. And now would you ask to have her shipped to you perhaps several hundred miles—twenty-four hours, thirty-six hours of pain and fear and misery? Isn't it cruel? Isn't it enough to ruin her?

Another thing; goats, more perhaps than any other animal, have an exclusive affection for their keeper, and sometimes fight desperately even at home against being milked by any one else. I knew a goat that actually went dry rather than be milked by the men folk of the family when the woman she loved was sick in bed.

Now suppose you have bought your goat, "just fresh"; and when she comes to your strange place in all that feverish pain and misery of her long journey, she is further afraid of you and won't let down her milk With patience and kindness she will be reconciled to you in a few days, though she may cry and pine for her old friends for a couple of weeks. But the mischief is done.

To require a goat to be shipped when near her time to bring kids is not much better. They are apt to be badly jolted on the cars and subjected to roughness which may even prove fatal a few weeks later. It is much better to purchase a doe who is bred, but not far along—say, two or three months, and not in heavy flow of milk, if to be shipped any distance; or a young doe bred for t he first time. Then she has plenty of time to get used to you and her future home before the serious business begins; and all is likely to be well.

In Switzerland when an addition to the family is contemplated, plans are laid for one of the goats to be ready for the duties of a foster mother.

It is too late to start out to hunt for a goat when the baby is crying for the milk, especially in a country where goats are as scarce as they are in California at present. Some peope have naturally such a good way with animals that even a strange goat will adopt them at once, especially if they have had a goat before.

As good a way as any, if we have time, is to buy a couple of weaned kids and raise them. Goats are sociable creatures and do much better where there are several. In this case the outlay is small and the task fascinating.

---

The farmers institute held at Beaumont last week called out a good attendance, and a most valuable program was given.

**Do your cows milk hard? Send 50 cents for teat expander. O. J. Weber Co., 225-227-229-231 East Sixth St., Los Angeles.**

## CORN SUPPLEMENTS AND SUBSTITUTES.

The proper supplementary feeds which balance corn in a ration not only enable the hog to show better results in fattening, but they also make possible a more economical ration. Feeding a hog on corn alone, whatever the form, is a false economy by which the feeder cheats both himself and the hog. Its natural supplements are those which furnish protein and mineral matter, and, if not easily available on the farm are usually purchasable so as to be used at a profit. Some, such as clover, alfalfa and other pasturage, are unquestioned as to their desirable qualities and others, such as the prepared meat scraps from the great packing houses and known by their trade names of meat meal or tankage, have rapidly come in favor for the large amount of protein they supply. The ash or mineral matter of the corn grain is considered indigestible for swine, and the absence of mineral matter impairs the nutritive process and injures the structure; yet it is neither difficult nor expensive to supply hogs with ashes, salt, coal, charcoal or charred cobs as correctives, with corn.—From Coburn's "Swine in America."

## NOTED HORSE DEAD.

"Directum, 2:05¼, champion trotting stallion for seven years and one of the greatest harness horses, is dead at the International Stock farm, Savage, Minn. In some unknown manner the horse sustained a slight scratch over the groin and blood poison set in and after two days the famous animal died.

Directum was purchased by Mr. Savage in 1901 at the Old Glory horse sale in New York for $12,000 and two hours afterward he was offered $25,000 for the stallion by a rival bidder who was being represented at the sale by an agent. He was bought from William E. Spier, a New England breeder. At four years of age Directum set a mark of 2:05¼ in a race, getting three records by the performance. It was the fastest mile ever trotted by a 4-year-old stallion, the fastest heat by a 4-year-old in a race and the fastest third heat ever trotted.

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# Veterinary

Answers in this column by Dr. R. T. Whittlesey, are without charge. For immediate mail answer remit $1.00. In writing questions give full symptoms or particulars of injury of animal.

### Glanders.

I have a horse five years old that has a hard cough, with wheezing or whistling sound after coughing. When coughing he kicks his stomach. Gray and yellow mucous runs from his left nostril.—An Easterner.

Symptoms you describe are those of glanders. Get a competent veterinarian to examine him.—R. T. W.

### Worms.

I have a mare that is about five months along with colt. She has worms, but I am afraid to give her aloin and turpentine, thinking it too strong for her.—Subscriber, Anaheim.

Mix and give as a drench the following: Raw oil 12 ounces; turpentime 4 ounces; aloin ½ ounce.—R. T. W.

### DR. WHITTLESEY'S VETERINARY REMEDIES.

These are not ordinary mixtures but are from well tried formulas, used in an extensive practice in Southern California for nearly a quarter of a century. Dr. Whittlesey's Sulphur Arsenical Salve for deep fistulous or ordinary chronic, indolent sores such as, "Poll Evil," "Fistulas," "Quitters," "Thrush," "Scratches," "Warts," "Collar sores" or "Sit-fasts," $1.00 per package postpaid. Printed directions. Dr. Whittlesey's Antiseptic Healing Powder forms a coating over raw surfaces, excludes air, flies and floating germs. Makes a cheap and convenient dressing for the many sores that occur to stock on the ranch. $1 full pound can postpaid.

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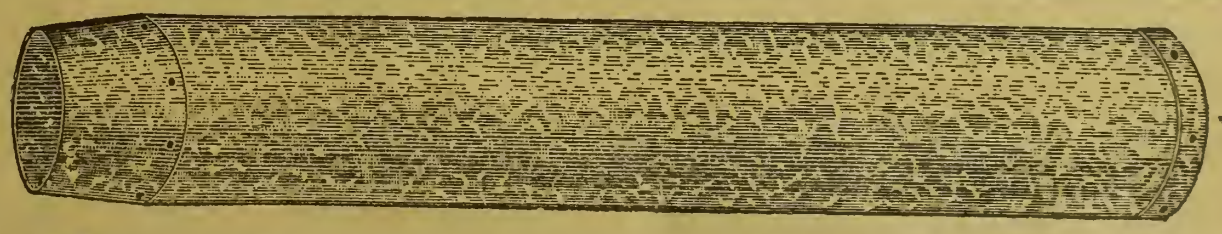

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# Small Fruits and Vegetables

## STRAWBERRY CULTURE.

THE small fruits, comprising the strawberry, raspberry, blackberry, currant and gooseberry, play a very important part in the economy of the household, in-as-much as they come at a time when there is a scarcity of other fruits and oftentimes of vegetables as well. So it is very important that every farmer, especially, should set apart a plat of ground sufficiently large to be capable of producing all the small fruits that the family can possibly consume during the year. The size of the plat will depend somewhat upon the size of the family.

There is probably no fruit grown that will adapt itself to such a diversity of soils and conditions as the strawberry. For that reason it can be grown by practically every one, in nearly every portion of the United States, who has a few square rods of good soil which can be devoted to that purpose.

### The Soil.

The soil for strawberries should be a deep rich loam, capable of holding much moisture. Whether it be clay or sand, it should be made deep and rich by the application of a heavy dressing of manure, well rotted if possible, and plowed under to a depth of eight or ten inches.

If the soil is a heavy clay with a hard tenacious subsoil, nothing will give better returns for the money invested than to go over the entire plat with a sub-soil plow, following the breaking plow, thus loosening up the subsoil to a depth of fifteen inches. This plow will furnish a reservoir for the surplus water in the spring which may be drawn on by the plants during a time of drouth which often comes when the fruit is beginning to ripen and just when an abundance of water is absolutely necessary in order to enable the fruit to develop properly and the plant to attain a good vigorous growth. If the subsoil is of a sandy or gravelly nature, the subsoiling will not be necessary; in fact, on such land the crop is often cut short because of the looseness of the subsoil which allows the surplus water to pass down out of reach of the plant roots.

### Always Set New Plants.

This is one of the most important points to keep in mind. No plant should be transplanted that is more than one year old. A plant that has borne fruit should never be used in a new bed. Select plants of the previous year's growth for transplanting, if set in the spring. Such plants may be told by the bright yellow color of the roots.

### Pistillate and Staminate Varieties.

It must also be borne in mind, that some of our varieties have perfect blossoms and some of them imperfect. In other words some are capable of fertilizing their own pistils while others must depend upon other varieties for their pollen. In almost all small fruit catalogues, the perfect and imperfect varieties are designated by an S or a P, indicating that the variety is staminate or perfect, or pistillate or imperfect. In planting, some of both kinds should be used so as to insure a good stand of fruit.

### Distance to Plant.

For general culture, the rows should be three and one-half feet apart and the plants set eighteen inches apart in the row. That will give plenty of room for a horse and cultivator, and the rows should always be perfectly straight and long enough to allow of horse cultivation. This will save much time and labor in keeping them free from weeds.

### Hill vs. Matted Row.

Some will prefer one method and some the other. The matted row system will appeal to the busy man or the lazy man, as less labor is required in keeping the plants thinned. In hill culture the plants are not allowed to run at will, but are kept in hills of four or five plants each, all other runners are cut off and treated as weeds. If large fine berries are wanted the hill or half matted row system is preferred; but if a large quantity of medium sized berries will answer the purpose, and for family use they are just as good, then the matted row system may be used.

---

## ONION CROP BRINGS $1500 PER ACRE.

At the real estate office of Cannon & Pitzer, in Roseburg, may be seen some very fine samples of onions grown by Joe Snider, of Day's Creek. From a piece of ground measuring 55 square rods (approximately one-third of an acre) he harvested this year a little over 500 bushels of onions. These were sold at 2 cents per pound, bringing him upwards of $500, or a return of over $1500 per acre. This beats any fruit crop heard of except the immense yield of apples grown by J. B. Smith at Winstons last year. It also further demonstrates the great value of Douglas country soil and climate, and also again demonstrate that what Douglas county needs is more producers. The natural conditions are there, if given proper attention.—Portland Oregonian.

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Yuma, Arizona, made an extensive exhibit at the Land and Irrigation Congress recently held in Chicago.

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# Ornamental

### SOIL FOR POTTED PLANTS.

An expert florist gives the following instructions:

He gets a quantity of sod and piles them up in a heap, and there they remain until well rotted. This pile is then turned over and beaten up. As it is turned over every layer of the sod is followed by a layer of well-rotted stable manure, each layer of manure being about one-quarter as thick as the layer of sod. This is then allowed to remain until wanted for use. Then one commences at one end of the pile and chops down the face and beats the whole up well, breaking all clods and mixing thoroughly together.

It should be taken and broken up still further. It is now mixed with one-fifth or one-sixth of sand. This sand can be bar sand from the rivers or good road sand from the gutters. The whole is then sifted through a common wire sieve. It is now ready for potting purposes. The sand is mixed with the soil to keep it from baking hard. It is an easy matter for any one to always have suitable soil for potting plants if they will do as the florist does.

This matter of suitable soil is so easily overcome by just a little timely effort that we wonder why it is that so many go on in the same rut year after year, with the poor plants struggling for existence in soil baked as hard, many times, almost as the pot itself.

The idea with many that, especially when in a hurry, anything will do to pot flowers in (it makes no difference) is about on a par with the farmer or gardener who plants in a certain place because of convenience, without regard to the character of the soil, and then grumbles because he has no crops. Flowers have life and must be properly fed with just as much care and intelligence as you give to your horses, cats or dogs or any other living thing.

### ATAMASCO LILIES.

There are two varieties of this popular flower grown on this coast—the one pink, the other white. The common names applied to them are zephyr lilies. The proper name of the white variety is Zephyranthes candida. It begins to bloom about September 1st and continues for three months. It is a native of Brazil and grows along the marshy banks of the La Plata river. We know of no plant that increases so rapidly, and we think it within the bounds of truth to say that tons of the bulbs are thrown out annually in this state.

The pink variety is popularly known as Atamasco lily—properly it is Zephyranthes carinata. It is a native of Cuba, Mexico and Central America. It is both exquisitely beautiful and fragrant. The flowers are borne on scapes 6 to 12 inches high, but one flower to a scape. As a border plant it has few equals and no superiors. It responds to good culture, the flowers being larger and the stems longer. It is fine for cutting.—Pacific Garden.

### THE COLEUS.

The coleus is such an easily grown subject and so showy that it is no wonder it is so popular. The number of varieties is practically limitless, and if one is at all interested in seeing new forms the expenditure of a few cents in a package of seed is all that is necessary. Though many of the resulting varieties will probably be worthless, there is always a chance of getting some really good ones, and in any case it is very interesting to watch the young seedlings as they develop, first the almost colorless leaves and later the larger, showy ones that show the character of the variety.

Beyond the interest accruing from their culture it is not necessary to grow these plants from seeds, as cuttings are easily procured in quantity in spring by wintering a few plants of each variety.—Gardening.

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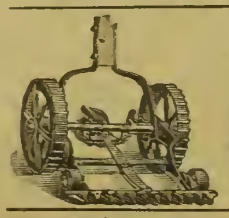

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# California Cultivator

ESTABLISHED 1889

PUBLISHED EVERY THURSDAY BY THE

Cultivator Publishing Company

H. A. PERKINS - PRESIDENT AND GENERAL MANAGER
115 NORTH BROADWAY, LOS ANGELES, CALIFORNIA
SAN FRANCISCO OFFICE: 733 MERCHANTS EXCHANGE BLDG.
NEW YORK OFFICE: 150 NASSAU ST., FISHER SPECIAL AGENCY

Entered at the Post Office at Los Angeles, California, as Second-Class Matter.

Thursday, December 30, 1909

Address all communications to Cultivator Publishing Co., 115 North Broadway, Los Angeles, California.

Subscription Price One Dollar per year, payable in advance. Dates of expiration of subscription accounts appear each week on the address label. John Jones 7-09 means July 1, 1909. Notify us by mail if you desire to discontinue.

Copy for change of advertisements must be in the office on Saturday preceeding date of issue. New advertising copy should reach the office not later than Tuesday to insure insertion.

Frank H. Thomas, Adv. Mgr., 115 No. Broadway, Los Angeles
M. C. Holman, San Francisco Office, 733 Merchants Ex. Bldg.
Fisher Special Agency, Eastern Office 150 Nassau St. New York
H. G. Hutchins, Subs. Man'gr., 115 No. Broadway, Los Angeles

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## Happy New Year.

THE PRESENT is a time when nearly everyone is taking account of stock in hand, making resolutions for the coming year, and mapping out some plan of action. It is also a season of kind wishes from friend to friend, and the Cultivator takes the occasion to wish for everyone of its patrons a most successful and happy year.

As a rule, this promises to be a good year for producers in California. In some lines there are discouragements, but these may be overcome by the resolution and intelligence of the class of people who are tilling the soil in this state. The recent State Fruit Growers' Convention held at Watsonville showed that the fruit growers appreciate the necessity of studying conditions which confront them and of bettering them, and, as we have said, we believe they have the intelligence and strength of purpose to accomplish this. If this is done, another New Year's day will find us far advanced toward prosperity and standing where the state has stood for many years—in the forefront of the fruit producing states of the Union. For stockmen there was never a brighter outlook. Certainly they cannot complain about prices. With them the one thing necessary seems to be to produce enough to satisfy the market. Celery, cabbage, asparagus and other growers all have their problems, but with all the prospects are most encouraging.

Then all together let us work for still greater advancement and greater happiness for ourselves and our neighbors.

## Wholesome Reading.

WE HAVE before us an excellent little leaflet entitled, "Current Reading." It is issued by the publishers of the Youths Companion. We note in it some invaluable advice, just a bit of which the Cultivator will pass on.

"We must be sure that the periodical we invite to our homes is honestly edited for us. If there are young people the reading of the home must be watched with double care. Boys and girls enjoy the same kind of reading as their parents." "In the family no book or periodical should be allowed which does not help to build mind and character and is not an inspiration to high ideals. It is a parental and a public duty to see that young folks are wisely guided in their reading." "Even the boy of the best up-bringing may be powerfully attracted by sensational stories of impossible adventure, by details of crime and criminals, also by cheap and vulgar comicalities. The girl may be fascinated by the silly, false and offensive sentimentality of a certain mushy kind of cheap love story." "At its worst cheap reading destroys their minds and morals."

No greater duty is before the parent than that of providing attractive, wholesome, cleanly reading matter for the young in the home, and in this it is most easy for the mature mind to make the mistake of thinking that our young people can at once take up with the class of reading matter which may please us, or leave it alone. We must recognize the fact that they demand, or at least will be benefited more by, an attractive class of literature than if they are forced to read that which is too dry or beyond their years. But, as is pointed out in the above quotations, let us not go to the other extreme and give them the cheap, trashy stuff which is flooding the book stalls and even many newspapers today. In addition, we believe the colored supplements of many of the newspapers are directly demoralizing and should be kept from the home.

## Specialize.

THE DAY OF THE "OLD SETTIN' HEN" in the barrel in the backyard may not be past, but the immense poultry plants of today promise larger things for the industry than the small backyard efforts.

Petaluma has many plants where thousands of hens are colonized; dairy ranches have been transformed into poultry ranches and feed is bought by carloads. On these ranches no brooding hens or incubators are used, and no attention is given to hatching. The chicks are delivered to the ranches by hatcheries which make that their entire business. Even the hatching and brooding are now often separate branches of the industry; the youngsters are sometimes delivered to the ranches a third or half grown. This condition has been brought about by a system of specializing. Men with capital have installed large incubators and devote their whole attention to hatching; others have established brooders, taking the youngsters at one day old and later delivering to the ranches.

This is not only true of Petaluma but to a certain extent of Southern California. The industry is attracting men of capital who have the ability necessary to handle big undertakings. One plant near Los Angeles devoted exclusively to the production of fryers and broilers has been established at a reported cost of one hundred thousand dollars. It is expected that good interest and a profit will be made on that investment.

The barnyard fowl may not disappear entirely but surely brainy people are being attracted to the industry who will make it more of a business proposition than it has been in the past.

## Agriculture in High Schools.

THE COLLEGE OF AGRICULTURE of the University of California has just issued Circular Number 47, touching upon agriculture in high schools. It is written by Prof. Leroy Anderson and in answer to the deep interest manifested in many sections of the state in regard to the teaching of agriculture in our high schools. The writer refers to the work already taken up along this line in the Oxnard Union high school, the Imperial county Union, the Kern county Hanford Union High School, the Siskiyou county Union High School at Yreka, the Vacaville High School, and the high schools at Hollywood, Glendale, Ventura, Santa Cruz and Gardena. The latter mentioned is within the city limits of Los Angeles and is making quite a record in its work. The book closes with an outline for high school agriculture which should be valuable to all who wish further knowledge regarding the coming education.

## Buy Retail—Sell Wholesale.

A POULTRYMAN recently remarked in the office of the Cultivator that the great drawback with poultrymen has been the fact that most of them have bought all their feed and poultry supplies in small quantities at retail price and then turned around and sold all their products at wholesale or even less to the jobbers who pay the very lowest price. Any dealer in merchandise who would conduct his business along these lines would necessarily require a long purse to make both ends meet. In fact, it would be impossible. That the poultryman can exist and follow this policy shows that there must be big profit in the industry.

It seems to us that it would be wise for the poultryman to reverse this method. If he is so restricted financially that he cannot buy in carload or ton lots, let him combine with a neighbor, or several neighbors, and buy at the very lowest possible price of the highest possible quality, and then with the same enterprise so handle the selling of the product of his yards as to secure better prices. When this is done there will be a great change for the better in the finances of poultry people.

## Real Beauty Spots.

CALIFORNIA is able to show many beautiful home places, and many are on the farms or orchards of the state. As a rule, we believe the orchards have more beautiful surroundings than the grain or dairy farms. We say, as a rule, for many of the dairy farms are real beauty spots. The houses are attractive, there are well kept lawns and shade trees which give a delightful setting to the place. But as many of these as there are in California, the proportion should be much greater, greater not because of sentimental reasons, but from a purely financial standpoint. Farm property becomes more attractive to newcomers, and the more the better class of people are attracted to the farms, the more desirable become the surroundings. Some farmers are so situated financially that they cannot give much time to beautifying their places, but there are others, well to do, who build immense, expensive houses which have no suggestion of attractiveness and the owner seems to have no idea of tasteful arrangement or of beautifying with shrubbery or trees.

Beautify the home. Make it a homestead, too attractive to leave.

## A Representative Paper.

ONE OF THE UP-TO-DATE PAPERS which come to our desk representing the great producing interests, is the Weekly Oregonian published in Portland. While it is a newspaper, it gives particular attention to the farm interests of that state. The issue of December 16th contains a most compete review of an address made at the Annual Meeting of the Oregon Dairy Association, also of addresses made at the meeting of the State Horticultural Society held in Portland on December 6th and 8th. The extended quotations from these addresses, together with other farm news are most creditable.

## Carnegie Fund Discontinued.

THE trustees of the Carnegie Institute have withdrawn the support which has been extended for the past few years to the Luther Burbank experiments at Santa Rosa. The commercialism which is alleged has been a feature of the experiments is given as the cause of the withdrawal of the Institute's support.

This will cause regret on the part of those who hoped for good to the fruit industry from these experiments. But it must be admitted the Institute had good cause for its action.

# Agricultural News Notes of the Pacific Coast

## Northern California

Oroville people are using olive pulp or pomace for fuel.

The honey crop at Gazelle, Siskiyou county, has been large during the past season.

The favorable season is inducing the plowing of much land for seeding to winter grain.

Napa county is contemplating voting bonds for building a system of permanent roads.

Yuba City farmers report the turkey market as good, and a big supply of birds on hand.

Sutter county peach growers report the setting of buds to promise a good crop of peaches next year.

Many Sutter county peach growers have contracted their 1910 crop of Tuscan Clings at $30 per ton.

It is planned to rebuild the alfalfa mill which was burned near Proberta, Tehama county, last summer.

The last car of prunes was sold last week at Healdsburg, Sonoma county. This is the earliest clean-up of any season.

Mendocino county apple growers have found good profits and much encouragement from fruit shipped to San Francisco this year.

The last of the beet shipments from Yolo county to the Sacramento Sugar Company at Hamilton City was made on Dec. 19. It went by special train.

A Greek has agreed to establish a cheese factory at Woodland for the making of cheese from the milk of ewes if he can secure the milk from 1000 to 1500 ewes.

The committee appointed by State Commissioner Jeffrey to devise plans for the formation of the Fruit Growers League, will meet on December 30th to discuss plans.

High school students at Williams, Colusa county, devote their noon and recess hours to the study and practice of plant growing rather than to ball and other games.

Articles of incorporation of the Feather River Dredging and Concentration Company have been filed in Sutter county. It is reported that the work will be done below Yuba City.

There are 10,769 public school teachers in California and there are 1490 high school teachers. There are less than ten per cent of the school children of California in the high schools.

The Vacaville fruit growers association organized last year, held its first annual meeting recently and elected P. H. Buckingham President and C. J. Uhl Secretary. The past season's business has proved eminently satisfactory to members of the association.

The District Court of Appeals of the Third District has reversed Judge Head of the Shasta County Superior Court in his decision in the suit of the Northern Light and Power Company against twenty-eight farmers living on Cow creek. Judge Head decided nearly a year ago that the farmers' riparian rights could not be condemned for such a public service corporation as an electrical power company.--

## Central California

Congressmen are distributing packages of free seeds.

Porterville has shipped 575 cars of oranges since November 1st.

The recent storms have swollen the San Joaquin and other rivers of the Valley.

Porterville is maintaining an exhibit of oranges at the Exposition in Omaha.

Lindsay reports the navel crop this year from five to ten per cent greater than last year.

Stock breeders at Delano are planning to import a car of red polled cattle from South Dakota.

One Kerman dairyman has recently purchased in Los Angeles county a carload of registered Jerseys.

With the price of hogs soaring, farmers of the Valley are discussing more extensive swine raising.

The work of building the new creamery at Delano is well under way and its early completion is promised.

The chamber of commerce at Porterville has an exhibit of insect pests in a case presented by the State insectary.

Farmers institutes recently held through the San Joaquin Valley gave much attention to the discussion of good roads.

The Tulare county chamber of commerce is maintaining a fine exhibit of products in the chamber of commerce, Los Angeles.

Tulare county orange growers have netted in the neighborhood of $1.35 per box and are well pleased with the season's returns.

The board of supervisors of Tulare county has been asked to appoint a veterinarian to inspect livestock in the Porterville section.

Still greater tonnage has been signed in the raisin pool, and it is now assured it will be a great advantage in saving the raisin market.

Candidates for horticultural commissioner in Santa Cruz county are brushing up for an examination which is expected to be held at an early date.

The board of education of Fresno is considering the advisability of establishing an agricultural course with a practical experiment station at Kearney Park which belongs to the state university.

The Porterville chamber of commerce has an exhibit of a cluster of oranges, one branch having ten oranges weighing exactly ten pounds and all perfect in shape.

It is claimed that the meat trust is endeavoring to drive independent slaughter houses out of business and force growers to sell only to the trust by making impossible conditions for the slaughter houses near San Francisco.

The farmers union which marketed much of the fruit for melon growers at Turlock is being roasted by growers because of poor returns. The advice generally given to the farmers is to stick to the union and try to bring about a reform in its management.

## Southern California

Packing houses in many orange growing sections are opening.

Grain growers near Cucamonga, San Bernardino county hope for a big crop of grain.

A man at West Orange reports his 1909 walnut crop as exceeding one ton to the acre.

Fullerton has made heavy shipments of sweet potatoes during the last few weeks.

Oranges in many Southern California orchards will run exceedingly large this year.

Orange county orange growers received good returns for the few cars of holiday fruit sent out.

Santa Barbara candidates for horticultural commissioner are brushing up for an early examination.

Brawley is happy in the installation of its up-to-date creamery, said to be one of the most completely equipped in the state.

A walnut grower near Anaheim is grafting the wild walnut trees in the hills over to the edible nuts and is having good results.

Whittier apple growers have found good results in the production of apples there, and it is thought further planting will be encouraged.

The desert section near Needles, San Bernardino county, was surprised by quite a heavy fall of snow at the time of last week's storm.

Rangers in charge of the forest reserves are planning for more extensive planting of pines in the mountains this spring than ever before.

Orange county farmers will produce more of winter melons and casabas this season owing to profits secured by those who have grown them the past year.

W. C. Mendenhall of the U. S. Geological Survey reports that the San Jacinto and Moreno Valleys are capable of developing thousands of inches of water for irrigation.

Special orange trains are being made up from Southern California shipping points, and the next six months will see lively times in all orange producing sections.

The Union Sugar Co. at Betteravia closed its season last week. The beets showed the biggest content of sugar this year of any season since the establishment for the factory.

A little injury was done by "northers" which visited some of the orange growing sections after the recent rains, but the reports are that it is lighter than usual and no great harm done.

The celery growers are unable to fill all the orders sent in for well bleached celery, owing to banks thrown up against the celery having been washed down by the recent storms.

The Whittier Vegetable Growers Association reports the last season as an especially successful one, especially in regard to tomato shipments. The association shipped over 560 tons ranging from twenty to forty-five dollars per ton.

## The Coast

The Idaho State Dairy Association meets at Caldwell January 9-11.

Seattle is quoting potatoes at twenty dollars per ton for best stock.

The Idaho Pure Seed Convention is to be held in Caldwell January 13 and 14.

Reno, Nevada, reports many apples frozen on trees before they could be picked.

Export wheat is advancing at Tacoma and now stands at $1.14 for bluestem.

Eight inches of snow is now lying in the apple orchards of the Hood River country.

One apiarist at Vancouver, Washington, cleared $1,080 on his honey output last year.

Christmas turkey prices at Portland were higher than turkeys have reached for some years.

The Washington State Livestock Association will hold its annual at Spokane January 4 and 5.

A North Yakima, Washington, poultryman has a bantam rooster which he asserts is 22 years old.

A farmers institute held at Sandpoint, Idaho, gave the entire session to the discussion of rural schools in rural communities.

A large rancher near Moscow, Idaho, has sent an expert to Europe to buy a cargo of Shropshire sheep and Guernsey cattle.

The opening of the lands for allotment and settlement in the Yuma Indian Reservation has been indefinitely postponed.

Business men of Walla Walla, Washington, have formed a large company for the handling of products of the Walla Walla Valey.

Some of the most noted horticulturists in the nation are expected to speak at the State Horticultural Meeting to be held at Nampa, Idaho, January 5-7.

A large wheat raiser at Dayton, Washington, has just closed a deal for $50,000 worth of bluestem wheat for which he received $1.10 per bushel.

Hawaiian stock men have found the algaroba bean, or the 'St. John's Bread," when cracked in a recently perfected machine, to make excellent stock food.

The membership of the grange Patrons of Husbandry of Washington now totals 14,000. This state leads all states in the Union in the percentage of increase of this order.

The Western Washington Experiment Station at Puyallup is investigating the crown gall of blackberries which is very troublesome to the blackberry growers of that state.

The 46th Annual Convention of the National Wool Growers Association will be held at Ogden City, Utah, January 6, 7, and 8. Tariff and Warehousing will be features discussed.

Poultry Shows are to be held in Washington as follows: Bellingham December 28-January 1; Tacoma, Jan. 4-9; Spokane, Jan. 11-15; Seattle Jan. 17-22; Walla Walla Jan. 17-22.

# West Coast Egg Food

***is the Best and also the Cheapest***

75 lb. sack, $1.90; 90 lbs. $2.25; 100 lbs. $2.50.

Hens must be kept in good condition and fed egg producing foods. We know how to make such rightly balanced rations. That is our business. And we have the best equipped mill for doing it. Others say their egg food is as good as "West Coast," but—

Or if you are distant from Los Angeles and have grain products cheaper than to ship them in from here, you can make your own Egg-Food, as good as anybody can make, by using

# EGG-MORE

This is not a strong tonic but a highly concentrated Poultry Food, and when mixed with shorts or other good grain products, just a little each day (according to directions) makes a rightly balanced ration. Your fowls will keep in good condition, feather out quickly and your hens will certainly lay more eggs, if you feed it. 4lb. packages, 35 cents; 12½ lb. sack $1.00; 25 lbs. $1.90. 50 lbs. $3.60; 100 lbs. $7.00. If not kept by your dealer, we will prepay freight within 300 miles on a sack of 25 lbs. or over.

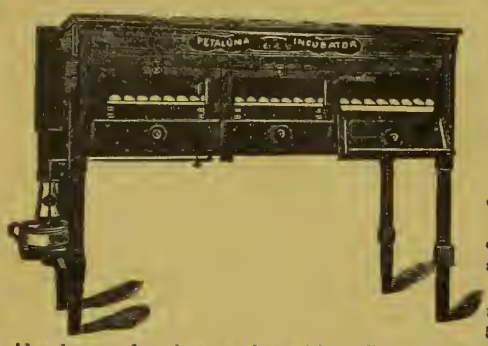
$2.60 FREE. If you will send us the addresses of ten persons who have any fowls, we will send you, post-paid, our Biddy Booklet and an article worth ten cents, which many say no household should be without. If you will send us twenty-five addresses, we will also send you The Poultry Manual, profusely illustrated, by those high authorities, F. L. Sewell and Ida E. Tilson, a reliable work worth fifty cents, but free to you. For 100 addresses we will also send free, and expressage prepaid, another most useful article which sells in the East at $2. We merely want to send to them, by mail, some advertising matter, but your name will not be mentioned in connection with it in any way.

## West Coast Mill

**Cor. Griffin and Alhambra, Los Angeles**

## Petaluma Incubators and Brooders

***Awarded GRAND PRIZE at Alaska-Yukon-Pacific Exposition, Seattle, Wash.; Two First Prizes and Silver Medal at the late California State Fair***




***Petaluma Poultrymen*** in accordance with their aim of attaining the highest degree of efficiency have steadily selected ***Petaluma Incubators*** and ***Brooders***—the Standard of the World.

We have equipped all the big poultry plants and have several contracts to complete before January 1st, 1910.

One firm of poultrymen has 47 504-egg Petaluma Incubators giving a capacity of 24,000 eggs at one time.

We also have contracts to equip a number of plants with from 10 to 20 504-egg ***Petaluma Incubators,*** besides dozens of poultry ranches with smaller numbers of machines.

***Winners of More Prizes Awarded by World's Fair Judges Than Any Other Make***

We have stated before and we ***again*** state that more Petaluma Incubators and Brooders are used than all other makes combined in Petaluma and all that great section of the country west of the Rocky Mountains, which is more than one-third of the entire United States, and the Petaluma is fast reaching a similar position among Eastern poultrymen. As rapidly as its merits become known does it supplant all other kinds.

## Midland Poultry Feed

Is the best ground mixed feed and hundreds of the successful chicken raisers use no other. Ask for it and take no other.

## Petaluma Incubator Company

**Petaluma, Cal.** **Indianapolis, Ind.**

Our General Agents for Incubators and Brooders and Midland Poultry Food:

**Aggeler & Musser Seed Co., 113-115 N. Main St., Los Angeles**

The World's Famous Incubator

## The "JUBILEE"

This Incubator pleases every one, and NEVER disappoints anyone. It is known the world over as the BEST hatching machine EVER BUILT. If you wish to get the BEST results, then use the JUBILEE. Our Catalog tells all about it.

**JUBILEE INCUBATOR CO.,** Sunnyvale, Santa Clara Co., Cal.


# Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

### THE BREEDING OF TURKEYS FOR PROFIT.

THE market for turkeys has been so great during the last few years that prices have constantly shown a tendency to rise and there is no doubt that this tendency will continue.

For selling in the poultry market for food, turkeys are more profitable than any other class of our domestic poultry. They always bring higher prices than other kinds of poultry and pound for pound, their care costs less than chickens, ducks or geese, because in favorable locations they require but little feed from their owners as they find most of their feed in the fields, seeking dilligently for insects, grubs, weed seeds and waste grain in the fields.

Turkeys require wide range, such as they find on a farm and thousands of farmers could add very much to their incomes by rearing a flock of turkeys.

Young turkeys are reputed to be hard to raise but the truth is that they are not harder to bring up than some varieties of chickens. Some breeders use hen turkeys to hatch with while others prefer hens. The best plan perhaps is to use the first eggs of the season by hatching them under hens allowing the hen turkey to hatch the last clutch she lays.

If a flock of turkeys has been taught that they will be given feed every evening if they come home for it the birds will become accustomed to staying around home by the time winter is over and the hens will readily lay in nests close to the house if they are provided for them. A barrel with one head out, laid on its side, makes a good nesting place. Put some fine hay in the barrel and have the open end so placed that it is screened from observation and it will suit the hen very well.

A hen turkey will lay about three sets or clutches of eggs. The number laid depends on the individual capacity of the hen to produce eggs.

One mating with the male fertilizes all the eggs produced during one period of laying and one male is sufficient for a dozen hens where so many are kept.

There is a disposition to grow turkeys to the largest possible size, but when over large birds are sent to market they are not the first ones sold.

In selecting breeders choose birds as near the Standard size as it is possible to get them, looking to birds with deep breasts, thick thighs and strong bones. Every action should indicate perfect health and abundant vitality.

Of recent years much has been said about the evils of inbreeding and no doubt this talk is fully justified because inbreeding is dangerous unless the breeding stock is selected with great care.—Poultry.

### FINISHING TURKEYS.

Many breeders have the idea that it is advisable to wait until just a few days before wanted before beginning to prepare the turkeys for market.

For the past several years we begin feeding our poults for the market as soon as they are old enough to eat. This may seem as figurative language but we remember of hearing the veteran breeders that have preceded us many years say the first two months feeding of a turkey's life greatly determined the condition of the turkeys at maturity or at market time. This saying we have found to be gospel truth. It is very true we do not begin feeding them at this age a heavy fattening ration, but feed them intelligently on pure, wholesome foods in order to build up bone and muscle preparatory to heavy feeding for fattening later in the fall. The facts are we feed our turkeys but very little; but this very little served just at the right time and in the proper amounts is of more value than a large amount of feed, fed often.

June and July are the banner months with us for young turkey poults. If we can successfully tide them over those two months in a thrifty condition we feel assured of being able to market the majority of poults we enter the month of August with. Hence, the feed and management during the early part of the poult's life then really does pave the way clear for market conditions later in the season. We cannot refrain from mentioning the fact that lime is a great subjugator of lice on the poults, at the same time a prime factor in the poults digestion.

Lime or wall plaster should be placed in a crumbled condition in reach of the poults constantly. I have used lime for years and fully realize the great value of it. If you have never noticed the necessity of lime for the growing and maturing turkeys just watch them pick the whitewash from the side of a building or fence that has been whitewashed; they eagerly pick the mortar from the cracks of old log buildings or anywhere they can get it. Hence, this is sufficient evidence they need something of this nature in their daily bill of fare. We prepare it in vessels or feed troughs, same as grit or charcoal and they soon learn to eat of it same as our other farm stock eats salt. I am confident if lime is used in its various forms about the turkey quarters during the breeding and growing season the number brought to maturity will be quadrupled. Therefore as lime is inexpensive it should be used liberally as a whitewash and side dish for the turkeys of all ages. During the heated months we give special attention to the drinking water. The young growing turkeys are compelled to drink from the fountains on their arrival from a day's outing for the reason the water is disinfected with a few drops of carbolic acid in order to prevent any contagious disease securing a fatal grasp upon them. Turkeys will drink freely on arriving home from a day's ramble, even if they pass directly by a running stream of pure water, at least ours do and we do not neglect the administering of the acid for the benefit of the turkeys' health. If we keep the poults healthy while they are growing we are assured of producing turkeys that are simply "giants" and ideal specimens for breeding purposes.

It is hard for the writer to talk on the turkey question without mentioning most emphatically the importance of keeping them free from lice. Trying to raise turkeys and lice together "is like unto" raising chicks and swine together, always devoured by the enemy. In raising turkeys, if we should do all else well and overlook the lice our efforts have been in vain. Therefore if we expect to land a fine flock of turkeys for Thanksgiving or for other purposes the lice must be annihilated. No matter how well and carefully we feed them, unless we master the lice proposition the poults will never thrive. There is one more obstacle to overcome in growing turkeys and that is roup. A turkey if it once contracts roup is done for, it never will survive. Should it improve for a time it would be unfit to breed from but there isn't one turkey in a thousand that ever gets over roup. If poults are never permitted to drink water with other barnyard fowls they will hardly ever contract roup. In the fall when the overcrowded chicks begin to show signs of roup remove all possible chance for the poults to drink where the sick chicks have ever drank. Isolate the roupy chicks and feed the poults entirely away from the chicken quarters. Roup in

**Feed your Chicks**

**Coulson's**

**Special Dry Chick Food**

and watch them grow.

Compare it with other chick foods on the market and see the variety of clean wholesome grains and seeds it contains.

Free samples and descriptive booklet on application to

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There are a dozen good reasons for the health and strength of Defender chicks. Our catalog tells them. No. 3 540-Egg capacity delivered to your station for less than $34.50.

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**Dept. D, Livermore, Cal.**



**CROLEY'S**

**High Protein Meat Scrap**

Just what the name implies.

**A Meat Scrap High in Protein**

Not tanned nor embalmed and thoroughly digestible.

Manufactured by

**Geo. H. Croley**

**Poultry Supplies**

**631-637 Brannan St. San Francisco. Cal.**

Obtain it from your dealer, or order direct.



**GEESE**

***Toulouse Embden***

Prize winning stock never beaten at any poultry show.

***$1.50 Per Setting***

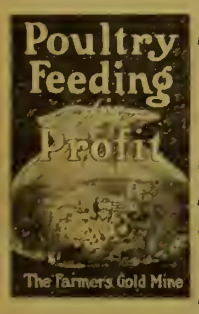
Fine Toulouse Ganders for sale at $4.00 each.

Send your order at once for the best stock in the west.

**T. B. C. Sielcken**

CALISTOGA, CAL.



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As winter layers cannot be surpassed. Stock for sale at all times. Write for Winter Mating List.

**DR. CHAS. E. WINSLOW**
**Proprietor**
**Bx 368 Cor Charlotte and Greystone, Monrovia, Cal**

Send stamp for Club Standard.


**POULTRY SHOW DATES.**

**Los Angeles, Jan. 5-11, 1910**—Annual Meeting Poultry Breeders' Association of Southern California at Chutes Park. S. E. Salisbury, Secretary, Monrovia.

**San Diego, Jan. 11-15, 1910**—J. F. Goforth, Secretary, San Diego.

turkeys is worse than a forest fire. In the majority of instances not a poult will survive. Keep the turkeys separated from all other fowls at all times otherwise you will have more or less trouble in trying to raise turkeys.—Poultry.

## LEG BANDS.

A subscriber wants to know what the leg band is and of what use it is to the average poultry raiser. In reply we will quote what a poultry writer says on this subject:

"To many poultry breeders the leg band is something that has never been heard of, to say nothing of having seen it. To the breeder of pure-bred fowls it is almost a necessity. It becomes necessary to mark the various individuals so as to keep the families and the attainments of certain individuals well in mind.

"By the aid of a leg band on an individual fowl, her young can be traced to such a time that they can be equipped with leg bands and by a good system of books the pedigrees can be kept just the same as those in sheep or swine. The latter have ear tags in their ears giving their individual as well as their record number.

The leg band consists of a band that is easily fastened to the leg or shank of a fowl very much like a ring is paced on the finger. It has a secure fastener so that the hen cannot pull it off with her beak. On this band may be the initial of the breeo er and the number of the iowl which corresponds with the pedigree record kept in a book for that purpose.

"This is a sure means of identifying fowls where there is no other way of distinguishing them. In our breeding business we have found the leg band a necessity and a convenience, and we would not now know how to get along without it. The price is reasonable and they are easily obtained.

"In addition to these conveniences it will be found a convenience to know the age of fowls by the use of the leg band. It very often occurs where the band is not used that there is some doubt about the age of fowls. With the leg band it is a very easy matter."—Coleman's Rural.

## RATTLING IN THE THROAT.

Rattling in the throat is a prominent symptom of bronchitis. Isolate all afflicted fowls and begin treatment.

In the early stages of the disease give one drop of tincture of aconite in a half-teaspoonful of water.

Repeat every hour for five hours, and then once in three hours. Give a hot mash of at least one-half bran, the other half middlings or bread-crumbs.

Also slightly acidulate the drinking water with ten drops each of sulphuric and nitric acid.

In place of the aconite, a teaspoonful of glycerine and about two drops of whisky added will often allay the irritation. Repeat daily for about a week.—Farm World.

## MARKING YOUNG CHICKS.

One poultryman has a unique way of marking his chickens. As soon as they are a day or two old, he cuts off a toe just far enough back to be sure to get all the nail off, with a good sbears. It is done instantly and bleeds very little.

The chickens do not seem to mind it in the least. Care should be taken not to cut the toe too far back as it will then bleed too much.

Shiftlessness and neglect are twin brothers.

**ROSENEATH EGG RANCH**

OSWALD M. ROBERTSON
ARLINGTON, CALIFORNIA.

***Wyckoff White Leghorns***

Day-Old Chicks $10 per 100, $90 per 1000. Booking orders now. My incubators are working now



***White Leghorns***

***A Standard Strain of Great Layers and Great Winners***

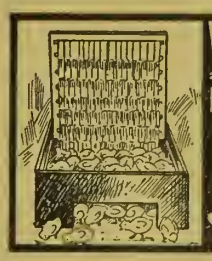
None superior. Prices reasonable. Booklet descriptive of our stock and farm, containing recipe for mixing the best and cheapest egg-producing mash, sent free for stamp. Eggs, stock and baby chicks for sale. Also a grand lot of cockerels.

On a separate farm, we have an extra fine lot of Buff Orpingtons, from which we can furnish stock, eggs and baby chicks at popular prices.

***Model Poultry Farm***

***Irvington, Alameda County, California***





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PRODUCES STRONGER, HEALTHIER CHICKS THAN ANY HEATED BROODER

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NO LAMPS. NO OIL BILL. NO DANGER OF FIRE

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***MRS. C. D. HUBBARD'S*** ***WHITE WYANDOTTES***

Eggs for hatching September 1st '09. Write for circular.

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**The Cyphers Incubator Pays From the Start**

Begin *right*—whether you are in the chicken business on a large or small scale. Don't "experiment up" to Cyphers quality. Get the best *first*.

The Cyphers means no moisture troubles; no heating troubles; no ventilation troubles. Biggest percentages; healthiest chicks. It's the best by test.

**The World's Standard Hatcher**

Used by more Government Experiment Stations, more State Agricultural Colleges, more well-known Fanciers and Practical Poultrymen than all other makes combined. A hot-air machine—no metal tanks to rust out. Self-regulating; self-ventilating.

Cyphers Incubators and Brooders are guaranteed to you personally. You have 90 days—4 hatches—to prove a Cyphers Incubator. Money back if you want it—after fair trial. 160-page Catalog free. Address Nearest City.

**Cyphers Incubator Co.**
**Department 46**
Fire Proofed-Insurable

Oakland, Cal.; Buffalo, N. Y.; New York City, N. Y.; Chicago, Ill.; Boston, Mass.; Kansas City, Mo.



**"Chicks Well Hatched are Half Raised"**

***CHICKS***

White and Brown Leghorns especially.

Other breeds hatched to order only.

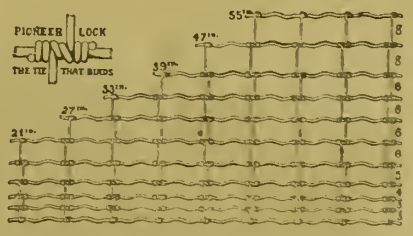
***S. C. White Leghorn Chicks from pure bred, vigorous, healthy stock having free range. Are heavy layers. 100 chicks $12.50. Lots of 300 or over $12.00 hundred.***

***San Jose Hatchery***

***Henry Langenschwadt*** ***San Jose, Cal.***



**Kokomo Hog Field Poultry Fence**




The Standard of all makes. Square and Diamond Mesh Fences for all purposes. Made of heavy, non-rust, self-regulating steel wires. Absolutely hog tight and stock proof. Write us for catalog and prices.

***CALIFORNIA ANCHOR FENCE CO.***

***Main & Market Sts., Stockton, Cal.***



**Buff Orpingtons** Did you know that **Sullivans'** "Commonwealth Strain" won the **Highest Honors Ever Accorded a Single Variety** in competition at the late State Fair? They did. We also won three out of five First Prizes at the late World's Fair show at Seattle, also best display. At San Jose show Nov. 13 we won eight of a possible 15 class ribbons, three out of five **First Prizes, Silver Cup** for **Best Display** and **Seven** Club Specials. Our show record has been climbing steadily for 10 years; our prices are no higher. Write for record and prices of stock.

**Mr. & Mrs. W. S. Sullivan**
**GARDEN VALLEY POULTRY YARDS**
5 minutes from depot. **Agnew, Cal.**
State V. P. Nat. S. C. B. O. Club for Cal.



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MADE IN PETALUMA

GUARANTEED

SOLD EVERYWHERE



**1000 Laying Hens**

$9.00 to $15.00 per dozen. This week we have 28 varieties of fowls on hand. Trios, Cockerels and utility birds in flocks of hundreds. Largest dealers in laying stock on the coast. Wanted—10,000 eggs for our Mammoth Hatchery. We hatch the finest chicks in the world.

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**FOR SALE**

**20 CARLOADS OF MERCHANT NEW PIPE**

**Galvanized and Black—All Sizes**

Just arrived from the mills. We are offering this pipe at the lowest prices obtainable on the Pacific Coast. Write or telephone for quotations. Call and inspect the stock We can cut pipe to any measurement you want. Our carload brass valves just arrived from one of th largest brass works in the East All first-class new goods. Hose bibb, garden valves, angle valves and globe valves. Two carloads oil well casing, 11⅝, 9⅝, 7⅝, 5⅝. 4, 3½, 3¼ and 3-in casing.

**Adams Pipe Works**

**2025 Bay St., Los Angeles**

**Phones—F1917 Bdw. 1264**

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Non-Irrigated Non-Irrigated

**No. 1 Grade—4 to 6 Feet**

**Muirs**
**Lovells**
**Phillips**
**Tuscans**

If you'll plant Oregon grown peach trees just once, you'll never want to plant any other kind.

**One-Year Tops BUDDED on Three-Year-Old Roots**

"That Tells the Tale."

Try them. They're no more expensive than poorer trees.

**Oregon Nursery Co.**

More Salesmen Wanted Orenco, Ore.

**NURSERY STOCK**

For Sale.—Several varieties of Peach Trees, all strong and healthy growers, such as Imperial, Hales Early, Foster, Crawford, Improved Alberta, Susquehanna and Late Salway. All of above at $20 a hundred. Also have a wonderful new peach, "Shamrock," that comes in just after Salway, which keeps until February. It is a large yellow peach, highly colored, like Orange Kling, has a rich flavor, bears very heavily on all parts of the tree, and sells during winter at 10c and 15c a pound. Three growers near Los Angeles have had control of this peach the past four years and would not sell any trees, but they have netted $400 to $500 an acre each year. My trees are the first ever offered for sale. Price $35 a hundred, or 50c each. Address at once, O. C. LANE, Burbank, Cal. R. F. D. Box 70.

**Eucalyptus Trees**

*E. Globulus or Blue Gum*
*E. Rostrata or Red Gum*

Transplanted in boxes of 100 each. A fine, strong stock, grown in the open, hardened to all weather.

*The Kind That Grow*

Prices right. State quantity desired.

**Oak Hill Nursery**

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**Florida Sour Orange Seed**

The hardiest and most desirable strain in existence, best as a stock for all kinds of Citrus Fruits. We offer only good, fresh seed, grown and gathered with the expert care that has made Glen St. Mary Nurseries famous for quality. Don't take chances with seed of doubtful grade and uncertain value—buy of headquarters and *get the best.* Prices and full particulars on application to Clerk C. C. *Glen St. Mary Nurseries Company, Glen St. Mary, Fla.*

**Dividend Notice**

**The German Savings and Loan Society of San Francisco**

(The German Bank)
Member of the Associated Savings Banks of San Francisco
**526 California Street**
Mission Branch: 2572 Mission St., near 22d
Richmond District Branch: 432 Clement St., between 5th and 6th Avenues

For the half year ending December 31, 1909, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Monday, January 3, 1910. Dividends not called for are added to the deposit account and earn dividends from January 1, 1910.

GEORGE TOURNY, Sec'y.

**Dividend Notice**

**San Francisco Savings Union**

(Member of the Associated Savings Banks of San Francisco)

**N. W. Corner California and Montgomery Sts**

For the half year ending December 31, 1909, dividends have been declared at the rates per annum of four and one-eighth (4⅛) per cent on term deposits and four (4) per cent on ordinary deposits, free of taxes, payable on and after Monday, January 3, 1910. A dividend not drawn will be added to the deposit account, becomes a part thereof and earns dividend from January 1. Money deposited on or before the 10th day of January will receive dividend from January 1.

R. M. WELCH, Cashier.


Pre-cooling and refrigeration plants will be erected at Fresno, Visalia and Bakersfield.

# Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.

### Pruning Cedars and Pines.

I have 20 cedars and pines in my front lawn, which are about thirty years old. When is the proper time to prune them without injury to the tree?—C. F., Napa.

We would defer pruning until February or March and then prune as desired. Of course the natural habit of growth is preferred with these trees, but where one wishes an opening for circulation of air or for view, it is advisable to prune at that time of the year.

### May Be Katydid Eggs.

I have lately found in my olive orchard some twigs covered with hard, thin scale, oblong in shape and about a quarter of an inch long. Can you tell me what this is?—C. S. H., Pasadena.

Without specimens or more definite description than is given here, it is impossible to hazard more than a guess. Our guess, however, would be that the "scale" are katydid eggs. We have seen more than one grower frightened at finding this insect's eggs, which overlap somewhat similar to fish scales on the limbs and look very formidable. They are harmless and most interesting to observe.

### Needs Organic Matter.

What can I do for streak of fairly dark soil which takes up water too freely and on which oranges have marbled leaves? —E. B. H., Visalia.

This query was referred to J. H. Norton in charge of the citrus experiment station at Riverside, and he answers that the only thing to do is to plow under all the organic matter possible and water oftener.

### Hedge Fence.

How can I grow tight fence around a 20-acre place. Would thorn or osage orange do well in this section? How is it best to proceed? Should plants be bought from nursery or seeds obtained?—F. G., Greenfield.

We have been unable to learn as to osage planting in this state other than that it occupies far too much ground to be considered desirable, especially where land is valuable. We would not encourage planting of any kind of hedge, but would prefer to the osage, Monterey cypress, privet or laurestina. But better than any of these is a good wire fence which takes up no room and does not require pruning, unless one wishes hedge as a wind break. The privet is not a high grower; the Monterey cypress is good, but not long lived. The plants may be secured from nurserymen.

### Transplanting Walnut Trees.

What is the best time of the year to transplant seven-year old walnut trees? Should roots and top be pruned or reset just as taken up?—W. C., Los Angeles.

It is unfortunate to have to move trees of such age, but by using care it can be done. It will be necessary to prune off the top to correspond with the portion cut from the roots. After the tree is out the roots should be given a clean cut at the tips where they have been mutilated in cutting off with the shovel, cutting preferably from the underside with a slanting upward cut. Plant as carefully as possible, tramping dirt about the roots and leaving a slight hollow about the trunk which may be filled with water to further settle the dirt. The transplanting should be done at once or at least within the next month or six weeks.

### Walnut Trouble.

I have walnut trees on Chino Ranch which were set three years ago next March. After a recent cold day I noticed that sap was running from many of the trees where the leaves had lately dropped off. The thermometer registered 25 degrees that morning. Do you think the buds were frozen enough to injure them? Is this a good location for profitable walnut raising?—P. A. F., Chino.

We can give no reason for the condition described, unless possibly it came from early drouth induced by not watering trees sufficiently in, say August, and then a later irrigation in September started sap flowing, and thus the trees were brought to the cold season unprepared for low temperatures. When trees are kept growing all summer through they are in perfect condition to meet cold weather when it comes, but if they become dormant through lack of moisture, a later flow of sap leaves them in bad condition. We would consider your section an excellent one for walnut growing, but the circumstances mentioned are sufficient to cause one to inquire as to behavior of other orchards in the same section.

### Yorkshire and Essex Hogs.

Can you give the address of anyone in this state breeding Yorkshire hogs?—W. H. R., De Luz.

Please give address of breeder of Essex hogs.—T. P. S., Dos Palos.

We are unable to give address of breeder of Yorkshire or Essex hogs. Will subscribers who know of breeders in this state kindly write this department.

### Bermuda Choking Alfalfa.

I have four acres of alfalfa almost choked out by Bermuda. I have burned off the surface and would like to know if I can get a good stand of alfalfa by disking and sowing eight or ten pounds to the acre. Of course, the Bermuda is not dead, but as it is not growing at this time of the year, I thought possibly the alfalfa might get a good start before the Bermuda commences to grow again.—C. B., Thermal.

We do not believe any success can be obtained by sowing seed on a field in such condition. By far the best way would be to plow and give one season's clean cultivation to some such crop as corn or beets, or you might plow and seed to either wheat or barley and plan to mow early and then give clean cultivation the last of the summer. After one season of this treatment the Bermuda will be sufficiently killed out to give a good stand of alfalfa.

### Fertilizer For Lemons.

Would like information in regard to fertilizing my lemon orchard. Have a surface soil of sandy loam but a few inches deep, analysis of which shows only fair amount of phosphoric acid; subsoil of adobe showing scarcely any phosphoric acid but rich in lime. Now, what system of fertilization had I better adopt to get phosphoric acid down well into the adobe? Bone meal, being insoluble, I imagine would not reach the spot and would encourage shallow rooting. Super-phosphate on the other hand is water soluble but, I understand, becomes fixed by lime in the soil—to what depth it would permeate the soil before becoming fixed by the lime is a question I would like answered.

Again will it go down further after the second rain or irrigation following the first after application, or will it then be fixed and go no further?

May say that I have grown a luxuriant cover crop the past three or four years—will this help in getting phosphoric acid down to the roots?—W. H. Harris, Chula, Wash.

This query was referred to Mr. J. H. Norton of the Citrus Experiment Station at Riverside and he writes:

I would use acid phosphate putting it in the bottom of the furrow. Plow in deep as there is no objection to so doing. The second best way of applying is to apply to the surface of the soil then plow under immediately. As to how deep this phosphate goes before being fixed I do not know, but probably not more than three or four inches at most. It will undoubtedly be fixed by the first wetting it has. Undoubtedly the roots of the cover crop do take some of the phosphoric acid down, but this will be a very slow process and even then the roots probably are not going deep, at least only a very small percentage of the roots.

This soil probably should be handled by plowing slightly deeper each year than the preceding year as long as this can be kept up without injury and is practical. This mixing of the surface and sub-soil along with cover crops and phosphates should solve the phosphate question.

### Soil Maps.

I understand that the state horticulturists have maps of the citrus growing sections of Southern California, showing and naming different kinds of soil in each plot of ground. Is this true and can these maps be had?—E. N., San Dimas.

There is a soil map issued by the Department of Agriculture at Washington, which may be secured by writing to the Division of Soils. The maps hardly contain the information you suggest, but at the same time are very valuable. In writing for them you should state township and section which you wish the maps to cover.

### Walnuts in San Jacinto Valley.

Will the Placentia Perfection do well in Hemet? Our altitude is about 1600 feet, soil rich sandy loam and very deep, climate hot in summer with scarcely any fog. Where can good trees be secured? I have seedling Santa Barbaras which I would like to have budded over to Placentia Perfections. Trees have gone through their third summer. Can you tell me where to get grafts from prolific trees? Will the Mayette or Concord do well here? At what age is a walnut tree in full bearing?

Hemet is most too far from the coast, or at least that factor combined with the summer temperature gives a condition which does not make your valley ideal for walnut producing. Our judgment would be that it would be wiser to plant such fruits as peaches, apples, pears or some other tested fruits. These mentioned can be produced of as high grade in your valley as in any place in the world.

A walnut tree five years old should bear 10 to 12 pounds, and if well cared for shoud be in good bearing at 12 years, but ought to increase until 20 years old, when it ought to bear 150 to 200 pounds per year. This cannot be expected of ordinary seedlings nor of any variety that will blight. There are some very good varieties, of which the Eureka is probably the best for this part of the state. The Mayette and Concord have not been tried under exactly your conditions, so we cannot say. The southern part of the state has not given them a trial which would justify anyone in giving positive information. The cost of grafting over trees such as you mention would not exceed 25 cents per tree. The trouble would be to secure someone qualified to do the work. The Eureka is proving one of the most blight resistant and best bearing trees in the southern part of the state. Others selected from seedlings are being proven out and probably will develop very many desirable strains.


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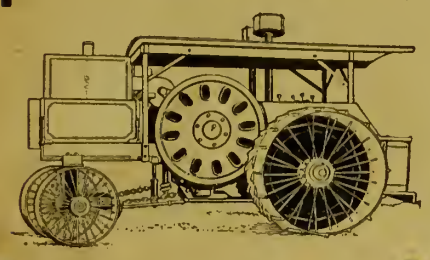

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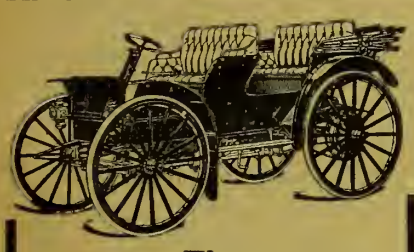

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### Tanning With Fur On.

Can you tell me how to tan calf's hide with hair on so as to make robe or rug?—R. W. E., Sanger.

Cut off the fleshy and fatty parts from the inside of the skin and soak in warm water for an hour. Spread on a paste made up of equal parts of borax and Glauber salts with water sufficient to make a thin paste. After spreading over the fleshy side of the skin, double with fleshy side inward and put in cool place. After 24 hours wash clean and smear with the following: Sal soda one ounce, borax one-half ounce, hard white soap two ounces. This should have been melted slowly and put in warm place 24 hours before using. Then apply the following: Alum eight ounces, common salt sixteen ounces, saleratus four ounces, hot rain water sufficient. When this is all dissolved and cool, place skin in it for twelve hours. When dry, repeat the soaking two or three times. Smooth the inside with sandpaper and pummice and work with the hands, as the softness and beauty of the hide depends on this last feature.

Another Formula: Soak hide so as to soften completely. If it has been allowed to dry it will require much longer than if salted and kept moist. After soaking remove the fleshy parts and put in a solution made up of one part salt, one part alum, and one quarter or one-half part japonica. This will dissolve in hot water sufficient to make a 35 degree hydrometer test. According to thickness, the hide should be left in this solution from five to ten days. Skins may then be finished in from two to three days. Thorough working, both before and after this process, softens the skin. Working down with sandpaper and otherwise is also necessary. It is impossible to have the leather soft without this long working. After working and thinning down, the skin may be again placed in the liquor for a day or two, when it may be hung up to dry. When good and hard, shave or work it down thinner and softer again and lay away in moist sawdust and later give a heavy coat of oil.

### Chrysanthemums.

Should chrysanthemums be thinned or reset to keep them thrifty and of their original size and beauty? Also, is it desirable to cut them back during the summer?—R. W. E., Sanger.

If desired to remove them from their present location, cut off nearly all of the old tops and heel in in any convenient place. Then cuttings may be taken from the young shoots as they come up in the springtime, to make next year's plants. To secure original size—if by that is meant large size often exhibited by florists—a system of summer pruning is necessary, which will be more fully treated in the garden department in the season for summer pruning. By leaving the old roots and allowing shoots to grow as they will, the most flowers are secured, but they are of small size.

### PIGEON AND BANTAM SHOW.

The Pigeon and Bantam show will be held at Chutes Park, Los Angeles, January 17 to 23, 1910. The association is offering a fine line of special premiums, including 50 silver cups. For information and premium list write J. L. Homer, 3841 S. Olive St., Los Angeles.

Prof. C. W. Woodworth of the State University is in Southern California testing out with various fumigating outfits two methods of measuring the cubic contents of the tents, or rather measuring the dosage of cyanide required. His appliances are novel and the results of the tests will be of interest.

While it is true that comb-honey brings, at wholesale, considerably more money that that which is extracted, yet the fact that a colony will produce nearly twice as much extracted honey as it will honey in the comb, makes the profit, per colony, about the same in both cases.

A million dollar smelter is to be erected at Parker, Arizona.

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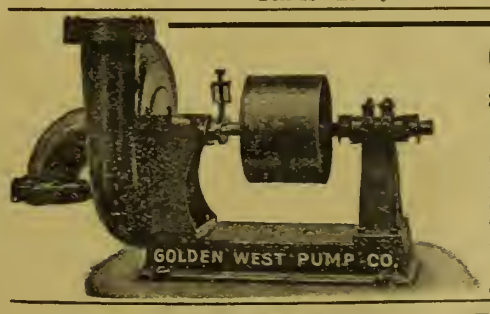


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W. S. SPARR, Agent. 321 Stimson Block, Los Angeles

# San Francisco and Los Angeles Produce Markets

## Los Angeles Markets

LOS ANGELES, Dec. 29, 1909.

### Butter.

No change in butter quotations and general tone of market normal.

Produce Exchange wholesale quotations are as follows with actual selling prices to the trade 2½ advance on Extras.

Creamery per roll .....67½@75
Eastern Creamery per roll .....67½
Cooking .....26
Ladles .....26@27

### Cheese.

Northern fresh .....20
Domestic Swiss .....23
Imported Swiss .....32

### Eggs and Poultry.

Greater activity on the part of the hens has started the egg market downward. Storage supply still further reduced.

Paying price f. o. b. L. A. is:
Local candled .....45@47
Case count buying price .....42
Storage .....28@30

Dealers pay for live poultry f. o. b. L. A.
Hens per pound .....18@19
Roosters .....9@18
Roasters 3 lbs. and up .....18@19
Spring chickens .....18@20
Turkeys .....20@24
Geese .....10@12
Ducks .....10@12
Squabs .....1.25@1.75

### Live Stock.

All prices on live stock are advancing. Hogs are strong at 8c with every promise of a continuing firm market.

The following quotations are f. o. b., Los Angeles on all stock.

Hogs from 175 to 200 pounds.....8
Prime Steers .....5
Heifers .....3½@4¼
Calves per pound .....5
Sheep ewes per head.....4.00@4.25
Lambs per head.....4.00@4.25
Wethers .....4.50@5.00

### Potatoes.

Wholesale prices are:
Sweet per ctl .....1.50@1.75
Burbank local .....85@1.00
Highlands .....1.10@1.35
Salinas .....1.50@1.65
Watsonville .....1.50@1.65
Oregons .....1.40@1.50
Oregon Rose .....2.00
Lompoc .....1.65@1.75

### Onions.

Wholesale quotations:
Australian Browns per sack..1.60@1.75
Garlic .....8@10

### Vegetables.

Wholesale quotations:
Artichokes local .....1.40@1.50
Beets, sk .....80
Beans, string .....10
Brussels sprouts per lb. .....8@9
Bell peppers .....10@12
Cabbage, per sack .....90
Celery per doz .....50@60
Cucumbers per doz.....1.50@2.00
Cauliflower per doz .....50@60
Carrots per sk .....80
Egg plant per lb. .....5@8
Green onions per doz bunches.....25
Hubbard squash .....1@1½
Lettuce choice per crate ....1.25@1.50
Leeks .....35
Oyster plant .....35@40
Summer Squash, lug.....75
Okra per lb. .....8@10
Peas per lb .....10@12
Parsley, per dozen bunches ....15@25
Pumpkins per lb. .....1½
Parsnips .....40
Radishes per doz. .....20@25
Rhubarb, crimson winter.....1.00
Spinach per doz .....17½
Turnips sk .....80
Tomatoes lugs .....75@1.00

### Citrus Fruits.

Navels .....2.25@2.75
Grapefruit .....2.50@3.50
Lemons .....2.25@3.50

### Fresh Fruits.

Wholesale prices on the market are:
Belleflcurs .....1.35@1.50
Winesaps California .....1.25@1.75
Permains Red .....1.20@1.50
Pearmains W W .....1.35@1.75
Newtown Pippins .....1.50
Jonathans .....3.00
Casabas per crate .....1.70
Cantaloupes Jumbos..... ..2.50@3.00
Christmas melons .....2.00
Figs .....1.25@1.50
Grapes lug box .....1.25@1.50
Persimmons lb. .....6@8
Pomegranates per lb. .....5
Winter Nelis .....2.25
Quinces per bx.....1.25
Raspberries .....10
Strawberries .....8@10

### Dried Fruits.

Wholesale prices are:
Apricots .....12@15
Evap apples fy per lb .....10@11
Figs box .....1.25
Peaches .....7@8
Pears .....11@12
Plums pitted .....12½
Nectarines .....9@10
Prunes .....4½@10

### Beans Dried.

Wholesale quotations:
Limas per ctl .....4.40@4.50
Pink No. 1 .....4.40@4.50
Black eyes .....4.75
Lady Washington .....4.25@4.50
Small white .....540@5.50
Garvanzas .....4.50.
Lentils .....7.00

### Nuts.

Wholesale quotations are:
No. 1 soft shell walnuts .....13½@14
No. 1 hard shell .....11
No. 2 soft shell .....10
Walnuts, budded .....18@20
Almonds, IXL per lb. .....15@17
Pecans polished .....12½@17
Peanuts, Eastern .....
Peanuts, Cal .....5@5½

### Honey.

Wholesale quotations:
Extracted water white .....7@7½
Extracted light amber .....6@6½
Comb Water White .....16
Comb, white .....15
Beeswax .....25

### Hay.

Buying prices f. o. b. cars L. A. are:

Hay is in big supply. At this writing a large supply is on the track with demand weakening. The well distributed rains are doubtless cause of the weakness.

Barley hay .....10.00@13.50
Alfalfa, local .....12.50@13.00
Alfalfa Imperial .....11.00@12.50
Northern .....12.00@12.50
Wheat hay .....11.00@13.50
Tame oat .....11.00@15.00

### Grain.

Wholesale selling price f. o. b., Los Angeles:
Wheat, new, per ctl .....2.15@2.20
Kaffir corn .....1.85
Corn .....1.80
Egyptian corn .....1.85
White oats .....1.85
Seed Rye .....2.10
Seed Barley .....1.70

### Feed Stuff.

Wholesale selling price f. o. b., Los Angeles:
Cracked corn .....1.85
Cracked wheat .....1.85
Shorts .....1.85
Bran .....1.60
Cocoanut cake .....1.35
Cocoanut meal .....1.85
Cottonseed meal .....1.25
Oil cake meal .....1.85
Feed meal .....1.90
Cracked wheat .....2.10
Rolled Barley .....1.65

## San Francisco Markets

SAN FRANCISCO, Dec. 28, 1909.

### Butter.

Butter advanced during the week a half cent and on Monday lost a cent, and is extremely weak at that quotation. Buyers are only offering 30 cents though all holders are demanding 35.

The official quotations of the San Francisco Wholesale Dairy Produce Exchange for today are as follows:

California extras per lb.....35
California Firsts .....31
California seconds .....29
Storage extras .....30½
Ladles .....25½

### Cheese.

California flats new.....17½@18½
Cal. Young American fy new....18@19
Young American Oregon fy.....18½

### Eggs and Poultry.

On the let up of holiday demand the price of eggs declined heavily and Friday saw a decline of six cents. Market is not at all strong at present quotations.

Official quotations of the S. F. Wholesale Dairy & Produce Ex. are:

Fresh ranch extras .....47
Firsts .....42½
Storage extras .....32

Hens per doz .....5.00@9.00
Roosters per doz .....4.00@8.00
Fryers per doz .....5.50@6.00
Turkeys .....20@23
Geese per pair.....2.00@3.00
Ducks .....4.00@9.00
Pigeons young .....1.00@3.50

### Live Stock.

San Francisco prices gross weight:
Steers .....3½@4¾
Cows and heifers .....2¼@3¾
Hogs .....5@8¼
Calves per lb .....4@5¼
Milk Lambs .....6@6½
Wethers No. 1.....5@5¼
Ewes No. 1.....4¼@4½

### Potatoes.

Wholesale market quotations:
River White crates .....75@90
River Whites, extras .....90@1.10
Salinas .....1.20@1.40
Oregons .....1.15@1.25
Early Rose .....1.20
Sweet crates .....1.25@1.50

### Vegetables.

Wholesale quotations:
Cucumbers hot house per doz 1.25@1.50
Celery doz .....90@2.25
Chili peppers per lb .....6@8
Egg plant per lb.....10@12½
Green peas per lb .....10@15
Mushrooms per lb .....15@25
Okra .....75@90
Winter Rhubarb per lb.....5@7
String beans .....10@17½
Summer squash .....1.25@1.50
Tomatoes southern .....75@1.50
Wax beans .....10@17½
Lima beans .....10@12½
Garlic .....4½@5

### Onions.

Yellow onions .....90@1.10

### Citrus Fruits.

New Navels .....1.75@2.75
Tangerines .....75@1.50
Grapefruit .....1.25@3.00
Lemons .....1.25@4.50
Limes .....4.00@4.50

### Fresh Fruits.

Bellflowers .....1.00@1.25
Newtowns .....1.25@1.75
Figs blk box .....50@75
Pomegranates .....50@1.50
Pears Winter Nelis .....1.00@1.75
Pears, cooking, box .....75@1.00
Persimmons .....75@1.25
Quinces .....75@1.00
Huckleberries per lb. .....8@10

### Dried Fruits.

Santa Clara prunes.....2¾@3
1 cent premium for larger sizes.
Apricots per lb. Royal .....10½@12½
Peaches .....5½@7½
Apples evap .....8@9
Pears .....6@9¼
Figs .....3¼@5
Nectarines .....5@6
Plums .....7@8

### Raisins.

RAISINS—1909 crop, f. o. b.: Fancy Seeded, 16-oz. cartons, 5@5¼c; do, 12-oz, 4½c; do. choice, 16-oz., 4½@4¾c; choice, 12-oz., 4c; 50-lb. bxs. Loose Muscatels. Standard. 4-crown, 4@4¼c; 3-crown, 3¼@3½c; 2-crown, 2½@3c; Seedless Thampson, unbleached, 3c; do, bleached, 7@7½c; Sultanas, unbleached, 2¼c; do, bleached, 4@4½c; Muscatels, unbleached, 2¼c; Dried Grapes, nominal; London Layers, clusters, 2-crown, 85@90c; 3-crown, 90@$1; 4-crown, $1.30@1.50; 5-crown, $1.75@2; 6-crown, $2@2.50.

### Nuts.

Walnuts soft shell No. 1 .....13@13½
Walnuts S. S. No. 2 .....8@8½
Walnuts, hard shell .....13
Almonds '09 N. P. U .....13
Almonds '09 nonp .....14½
Almonds I X L .....14
Pecans .....15@17
Chestnuts .....14@15
Peanuts .....5@6

### Beans Dried.

Limas .....4.15
Pink .....4.00
Black eyes .....4.05
Small white .....4.85
Large white .....3.40@3.50
Red Kidneys .....5.10@5.25
Garvanzas .....3.00@3.25
Bayo .....5.15@5.25
Horse beans .....2.10@2.25
Cranberry .....4.50

### Hops.

Hops 1909 crop .....18½@24
Hops 1908 crop .....17@20
Old .....10@13

### Honey.

White comb .....14@15
Light Amber .....10@12
Extracted W W .....7½
Extracted light amber .....6½@7
Beeswax per lb. .....25@29

### Hay.

Choice wheat hay.....18.00@19.00
No. 1 wheat or wheat & oat 15.50@16.50
No. 2 Wheat or wheat and oat .....13.00@14.00
Choice tame oat .....15.00@16.50
Other tame oats .....12.00@14.00
New Crop wild .....9.00@13.00
Stock hay .....7.00@8.00
Alfalfa .....9.00@12.00
Straw .....55@70

### Grain.

Wheat No. 1.....1.95@2.05
Barley No. 1 .....1.40@1.50
Oats white .....1.72½@1.77½
Oats gray .....1.72½@1.75
Rye new crop.....1.90@2.00
Cal sm round corn .....1.70@1.75
Alfalfa seed .....16@18
Mustard brown .....3¾@4½
Millet .....2½@3
Flaxseed .....4
Broom corn seed per ton .....23.50

### Feed Stuff.

Bran per ton .....29.00@30.00
Feed cornmeal per ton ....37.00@38.00
Cracked corn per ton .....38.00@39.00
Ground barley per ton .....32.00@33.50
Rolled oats per ton .....33.50@35.00
Oil cake per ton ... .....38.50@40.00
Cocoanut cake per ton .....26.00
Middlings .....36.50@37.50
Mixed feed per ton .....28.00@33.00
Shorts .....31.50@33.00

## Citrus Market

LOS ANGELES, Dec. 29, 1909.

Shipments of oranges are not being made so freely as before the Christmas trade, but a few are going from nearly all sections. Many are busy enquiring as to whether the cold weather has done any injury and all are hoping that it will be very slight. In many sections the trees are showing the injury in the nipping of all tender growth, but so far no damage to fruit can be determined. If injury appears later it is evident it will be only in spots and not as general as last year. The dropping off of holiday demand has caused slightly lower quotations to be made in most eastern markets. This decline will not amount to more than two bits per box.

Lemons are still being well received, but if the foreigns continue to arrive in present quantity it is feared that a decline will result.

**Shipments.**

Total shipments to date this season from Southern California points 1441 cars, of which 898 were oranges and 546 were lemons. To same date last year 1944 cars, of which 1339 were oranges and 606 lemons.

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NEW YORK, Dec. 27.—Nine cars navels and four cars lemons sold, also one car Arizona navels. Market easier and somewhat lower on navels; lemons easier; Arizonas steady. Weather cloudy, cold. Bad blizzard Saturday and Sunday; heavy snow, worst in twenty years.

| NAVELS— | Avge. |
|---|---|
| Snowflower seven | $3.35 |
| Globe seven | 3.00 |
| Snowflower seventy | 3.20 |
| Snowflower O | 3.05 |
| Globe thirty | 3.10 |
| Snowflower three | 3.10 |
| Mariposa Fy CCU | 2.60 |
| Hollywrcath Fy CCU | 1.75 |
| HM Xc CCU | 2.85 |
| Gold Buckle RH (special) | 3.35 |
| Gold Buckle RH Ex | 2.95 |
| Lochinvar RH Ex | 2.70 |
| Zebra TCC Ex | 2.50 |
| King Midas CE Whitcombe | 2.40 |
| Brook Ch Allen Break | 2.00 |
| Carmen Fy Randolph F Co | 2.20 |
| Sierra Vista Fy Randolph F Co | 1.80 |
| J E Schram | 2.40 |
| Choice | 2.15 |

Belt lemons—Few boxes, $2.35; Excelsior Ch CCU, $2.25; El Toro Sd, $1.75; Whittier ST Ex, $3.50; Bulldog, $2.75; Terrier, $2.35; Lighthouse, $2.20; Lotengo, $3.40; Del Oro, $2.85; Arizona Navels—Desert halves, $2.80; Cactus, $1.90.

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CLEVELAND, Dec. 27.—Two cars navels and one car lemons sold. Market firm on good stock navels and lemons. Snowing.

Navels—Blue Label TCC Lindsay,, $2.90; Golden Flower Xf Red GO Assn, $3.

Lemons—Pet SA Ex, $4.25; Greyhound, $4.05; Duck, $2.75.

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CINCINNATI, Dec. 27.—Cold; market weak on oranges, steady on lemons. Eleven cars oranges and one car lemons sold. Florida Brights, $1.60 to $2.20; Russets, $1.60 to $2.05.

Lemons—Pet Sa Ex, $4.60; Arab, $4.30; Greyhound, $4.30; Duck, $3.80.

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ST. LOUIS, Dec. 27.—Cold; market weak on large sizes. Twelve cars sold. Floridas, $1.35 to $2.20.

| NAVELS— | Avge. |
|---|---|
| Pampas ST Anaheim | $1.90 |
| Pico ST Whittier | 2.25 |
| Full Value TCC Lindsay | 2.15 |
| Papyrus ST Anaheim | 1.75 |
| Red Label TCC Lindsay | 1.60 |

Lemons—Golden Sceptre or Rialto O Co, $3.55; Circus Xc Sparr F Co, $4.20; Lily, $4.15.

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PHILADELPHIA, Dec. 27.—One car navels and one car lemons sold; three cars Floridas sold at $2.90 average. All traffic suspended here, worst storm for years.

Navels—Golden Orchard Fy or Ind F Co, $1.75.

Lemons—Century, $3.05; Lemonspray $2.60; choice, $2.10.

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PITTSBURG, Dec. 27.—Six cars sold; market steady on well colored navels, easier on lemons. Four cars Floridas averaged $2.30; stormy.

| NAVELS— | Avge. |
|---|---|
| State TCC Lindsay | $2.35 |
| Red Label TCC Lindsay | 2.00 |
| Pocahontas TCC Liske | 2.35 |
| Red Label TCC Lindsay | 2.00 |
| Zebra TCC Lindsay | 2.75 |
| Hiawatha, TCC Liske | 2.20 |
| Domestic Sd Red MO Co | 2.75 |

Lemons—Pet SA Ex, $4.45; Greyhound, $4.

BOSTON, Dec. 27.—Five cars sold; cool, clear. Market easier.

| NAVELS— | Avge. |
|---|---|
| Hollywreath Fy CCU | $2.05 |
| Mariposa Fy CCU | 2.00 |
| Winterhaven Fy CCU | 1.75 |

Lemons—Quail OK Ex, $2.55; Coyote, $2.60.

NEW YORK, Dec. 28.—Two cars navels sold. Market easier and somewhat lower. Clear and cold.

| NAVELS— | Avge. |
|---|---|
| Defender Fy Altland F Co | $1.80 |
| Crusador Or Altland F Co | 1.95 |
| Golden State TCC Ex | 2.55 |

BOSTON, Dec. 28.—No sale of California citrus fruit held here today.

PHILADELPHIA, Dec. 28.—Two cars lemons sold. Also 6000 boxes Florida oranges. Floridas sold from $1.60 to $3.00, average $1.75. Tangerines $1.10 to $1.35, average $1.25. Market is lower on Florida fruit.

| LEMONS— | Avge. |
|---|---|
| Liberty EFG Assn Escondido | $3.35 |
| Pioneer Ch. Pioneer F Co | 3.05 |
| Foxaway EFG Assn, Escondido | 2.85 |
| Pioneer Sd. Pioneer F Co | 2.40 |

## FACTS WORTH REMEMBERING.

Mark the date on each egg when put under the hen.

Fix up the poultry house before wet weather.—Poultry Digest.

## STAMPING EGGS.

In reply to a query as to the effect of stamping dates on eggs with rubber stamp an Eastern exchange says:

We have not known of a case where the ink proved injurious. Some of the copy pad inks might prove harmful. It would be best to use the vegetable ink used on pads of meat inspectors. Any ink on shell will injure eggs for boiling for table purposes and on hard boiled eggs will be found plainly marked on the white. We prefer to keep the eggs in marked egg boxes, and to use pencil only on eggs. Do not use indelible pencil.

# Money Making Little Liners

In this department we will insert your advertisement under a classified head for 1½ cents per word. No ad accepted for less than 25c. Our classified columns are the clearing house for our many thousand readers.

## TREES.

CITRUS NURSERY—Township of Glendora, corner of Gladstone and Ben Lomond avenues, half-way between Grand avenue and Citrus avenue. We have for sale orange and lemon trees suitable for planting in the coming spring, Navel Oranges, Late Valencias and Eureka Lemons. In growing these trees we have used much care in selecting the buds from the choicest trees only of the surrounding orchards. L. M. NETZLEY, Azusa, Cal. Phone 4095.

A LARGE STOCK OF GRAFTED AND seedling walnuts, peach, pear, plum, prune, apple, apricot, grapes, figs, and all fruit trees in all leading varieties. Oranges, lemons, ornamental and shade trees. Anything in nursery stock from best buds and grafts. A. R. MARSHALL'S Nurseries, Box 64, Santa Ana, Cal.

BLUE GUMS IN SMOOTH TOP TINS, a mass of roots, and a year ahead of those in flats, sturdy, straight trees. 2 feet tall 10c, 3 feet 15c, 4 feet 20c. Roses, all choice, bush or climbing, 60c, $1.00, $1.50 per dozen by mail. All kinds of trees and plants. Price list. GEM NURSERY, Los Gatos, Cal.

FOR SALE OR EXCHANGE—1,000 Phoenix Canariensis Palms, 1,000 Peppers, 1,000 Acacias, all out of 4-inch pots, 200 Monterey Pines 8 to 10 feet, fine, 500 large street trees out of 5 gal. cans, cheap for cash, or what have you? H. L. BAUER, 737 S. Spring St., Los Angeles, Cal.

VROOMAN FRANQUETTE AND MAYette walnuts grafted on black root. Grafted pecans, eucalyptus and berry plants, all kinds. Complete nursery stock, ornamentals, etc. Write your wants for special prices. TRIBBLE BROS., Elk Grove, Cal.

WANTED—ONE HUNDRED THOUSand Navel and Valencia orange trees for 1910 planting at Woodlake, Cal. Addres, C. R. LUTON, 436 Byrne Bldg., Los Angeles, Cal.

WRITE TO US FOR SPECIAL PRICES on first-class prune or peach trees, or berry vines. State number wanted. GRIDLEY COLONY NURSERY. Gridley, Cal.

THE GOLDEN RULE NURSERY COMpany of Loomis, Cal., are closing out their nursery business and are offering their entire stock at greatly reduced prices. Write for price list.

TWO YEAR OLD FRENCH AND Italian prune trees $15.00 a hundred, grape vines $1.50 a hundred, choicest varieties Gladioli bulblets, $2.00 a thousand. J. BEAMAN, Kennan St., Santa Cruz, Cal.

FOR SALE—2 YEAR OLD EUREKA Lemon trees, balled, $1.00 each. C. D. HUBBARD, San Fernando, Cal.

FOR SALE.—ORANGE SEED BED and valencias. A. OTIS BIRCH, 5106 Pasadena Ave., Los Angeles. Phone 39407.

## MUSIC LESSONS.

PIANO OR ORGAN LESSONS BY MAIL —We have a new modern method and want you to know about it on the principle of "The proof of the pudding is the eating." Three lessons will give you a better idea than this whole page of talk.. Send $1.00 to The Cultivator and tell them to hold it three weeks, after which time to pay it to us unless you write them to return it to you. As soon as your money arrives they will notify us and we will immediately start giving you, or any one you say over 9 years of age lessons under our plan and will continue weekly lessons for three weeks during which time we will write you all about the full course and prices. Do it now. The West Coast Conservatory of Music, Pico Heights, Los Angeles, Cal..

## BEES.

FOR SALE CHEAP—FROM 100 TO 500 colonies of bees, location. Come and see, get a crop every year. FRED M. HART, Hanford, Cal.

## HONEY.

SAGE HONEY, GUARANTEED ABSOlutely pure. One 5 gal. can, crated, f.o.b., $4.25, two 5 gal. cans, crated, f.o.b., $8.00. HENRY E. HORN, Riverside, Cal.

## MISCELLANEOUS.

CIVIL SERVICE EMLOYEES ARE paid well for easy work; examinations of all kinds soon; expert advice, sample questions and Booklet 85 describing positions and telling easiest and quickest way to secure them free. Write now. WASHINGTON CIVIL SERVICE SCHOOL, Washington, D. C.

STOCKMEN—"HORSES AND THEIR Care" by G. M. Young, "The Dairyman's Guide," by H. Wilbur Johnson, and "Handbook for Poultrymen" by Walter Randolph McIntire, for sale by W. J. STEWART PUBLISHING CO., Fresno, Cal. Price $1.00 each, postpaid.

RAISINS—PRODUCER TO CONSUMER —Loose Muscatels, good quality, your choice 3c, 3½c, 4c, 4½c, 5c in 50-lb. boxes. State price when requesting samples. A. H. DUGDALE, 1001 East 9th St., Los Angeles, Cal.

## WANTED.

WANTED—FARMS AND BUSINESSES. Don't pay commissions. We find you direct buyer. Write, describing property, naming lowest price. We help buyers locate desirable properties FREE. AMERICAN INVESTMENT ASSOCIATION. Minneapolis, Minnesota.

WE HAVE PARTIES COMING FROM East want to locate in California. If you have a good ranch for sale write description, price, location and terms. S. S. LEE, 508 Mason Bldg., Los Angeles, Cal.

BEAR THIS IN MIND—SEND 25c AND photo and get 24 beautiful copies. Photo and copies returned—charges prepaid. Ask for souvenir. MOFFITT & MEEKS, 143 S. Broadway, Los Angeles, Cal.

WANTED—8 TO 12 H.P. ENGINE AND vertical pump. Address, BOX 46, Orange, Cal.

## GRAPE VINES.

FOR SALE—10,000 CUTTINGS FROM the best selling table grape in California (the Cornichon) all bearing wood. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

CHOICE GRAPE VINE ROOTINGS, Tokays a specialty, all varieties at market prices. ATLANTA NURSERY CO., Louis Vistica, Manager. Atlanta, Cal.

FOR SALE—WELL ROOTED TOKAY and Zinfandel vines, true to name. Write for prices. A. VOTAW, Acampo, San Joaquin County, Cal. Phone, Lockford, Farmers 72.

## FERTILIZERS.

SULPHATE OF POTASH
$60.00 per ton.

For a short time we will sell Sulphate of Potash at $60.00 per ton.

This is the right time to apply it for maturing the crop and the new growth of wood.

This price won't last. Get your supply now from the Armour agent in your district.

THE ARMOUR FERTILIZER WORKS, Los Angeles and Colton.

## CATTLE.

SPECIAL — FOR SALE, HOLSTEIN bulls, two old enough for service and a number of yearlings. Also a few calves that are small enough to crate Jullanas, De Kols and all the strains for which this herd has been famous are represented. The only cows to hold World Records raised in the state were bred on this ranch. Same blood still represented largely in the herd MINNEWAWA STOCK FARM, Fresno, Cal.

## RARE PLANTS.

WILD PLANT IMPROVEMENT GARdens, Santa Ana, California, NEWTON B. PIERCE, Proprietor. Rare choice ornamentals and new fruits from all lands.

GET OUR LIST OF EXCELLENT roses and ornamentals. Our careful handling insures your success. BALLOU'S NURSERY, Pasadena, Cal.

## BERRY PLANTS.

STRAWBERRY PLANTS—FINE ONES. Pedigreed thoroughbreds, grown and restricted by scientific propagation, enormously productive. Same price as common stock. 60c per 100, $3.00 per 1,000 crated. From sixty varieties I have selected three of the "very best," Jessie, Marshall and Dollar. J. A. POWELL, R. D. 1, Ripon, San Joaquin Co., Cal.

10,000 IMPROVED SUPERLATIVE Red Raspberry Plants, the largest in cultivation, delights in hot weather, does not fall from plant when ripe. 100 plants $5.00. WM. RICHARD, 438 River St., Santa Cruz, Cal.

CUTHBERT RASPBERRIES, THE best variety you can plant. 100,000 fine rooted plants from a young plantation. Price in lots very low if ordered before January tenth. JOSEPH THORNDIKE, Pasadena, Cal.

CHOICE BERRY PLANTS—HIMAlaya, Logan, Mammoth Black, $3.00 per 100, $20.00 per 1,000, Dewberry $2.00 per 100, $15.00 per 1,000. Prompt shipment, satisfaction guaranteed. JOHN MORELAND, Gridley, Cal.

FOR SALE.—STRAWBERRY PLANTS, A 1, Klondyke, Jessie, $3.00 per thousand; Himalaya and Mammoth Blackberry $2.50 per hundred, $20.00 per thousand. F. L. Wing, Upland, Cal.

BERRY VINES—WE MAKE A SPEcialty of Mammoth, Himalaya, Phenomenal, Logan and Dewberry vines. Write for prices. GRIDLEY COLONY NURSERY, Gridley, Cal.

## FARM LANDS FOR SALE.

FINE DELTA LAND 14 MILES WEST of S. P. R.R.; raise two crops a year without irrigation, in 160-acre tract, at $5.00 per acre. Almost level, fall one foot in six hundred, in artesian belt less than 300 feet deep, 500 feet above ocean; no heat experienced over 95°, 20 miles S.W. of Hermosillo. Terms ¼ cash, balance 1, 2, and 3 years, 6% interest. Also other property in Mexico. WICKS REALTY SYNDICATE, 620 L. A. Trust Bldg., Los Angeles, Cal.

KINGS COUNTY LAND—60 acres at $95 per acre; good buildings; good location; good land; plenty of ditch water; suitable for dairying or general farming; some alfalfa fenced and crossed; terms. Address HOUSTON BROS., 220 N. Irwin St., Hanford, Cal.

FOR SALE OR EXCHANGE FOR Los Angeles or Orange County acreage—140-acre apple, berry, vegetable and poultry ranch near Santa Cruz. WILLIAM RICHARD, 438 River St., Santa Cruz, Cal.

FOR EXCHANGE—160 ACRES OF perfect land on the Mendota Plains, Fresno Co., Cal., at $10 per acre. Will take $800 mortgage back at 8% and $800 in good clear property. Prefer a lot. J. E. FARNHAM, Hollywood, Cal.

UNIMPROVED BOTTOM LAND NEAR creek and railroad station, only $25 per acre. J. O. BLICHFELDT, Anderson, Shasta Co., Cal.

I MAKE A SPECIALTY OF ORANGE and alfalfa ranches and exchanges 826 Main St., Room 9, Riverside, Cal N. R. BELL.

## CABBAGE PLANTS.

FOR SALE—FINE EARLY WINNINGstadt and Cannon Ball Cabbage plants, $1.00 per 1,000. A. E. NELSON, El Monte, Cal.

## MACHINERY.

SNAPS IN GAS ENGINES—THORoughly overhauled and fully guaranteed. Taken in exchange. Must close out. Also pumps, some new. BAILIE & BRANDT COMPANY, 943 and 945 North Main St., Los Angeles, Cal.

FOR SALE—25 H.P. GASOLINE ENgine, like new. Also 12 H.P. This is your chance. MACHINERY EXCHANGE, Main and Bruno Sts., Los Angeles, Cal.

## HOMES FOR CHILDREN.

HAVE YOU A BOY? IF NOT, LET us send you one. We want country homes for boys of all ages. Arrangements to suit. CHILDRENS' HOME SOCIETY, 2414 Griffith Ave., Los Angeles, Cal.

## POULTRY.

BABY DUCKS, CHICKS, AND FOX Terrier Pups. Mammoth White Pekin ducklings, White Rock and Rhode Island Red chicks. Good stock hatched from eggs from my strong, healthy breeders. Pedigreed English Fox Terrier Pups, sired by Hampshire Jester, registered No. 100699. J. W. LYON, Route 1, Box 170, Gardena, Cal.

WHITE INDIAN RUNNER DUCKS— The world's greatest egg producers, took both prizes at both Los Angeles poultry shows for 1909. White Leghorns, pure Howard Strain, stock and eggs for sale. Please mention Cultivator. MRS. M. E. GREY, R.F.D. 4, Box 249, Los Angeles, Cal.

WHITE ROCKS EXCLUSIVELY—Superior young stock. Pullets $1.50 up, cockerels $2.00 up. Orders booked for eggs, $2.50 per setting. Dr. T. J. DE VAUGHN, 30 N. First St., Alhambra, Cal. Phone, Los Angeles office, F 8429.

FOR SALE—GOOD BREEDING COCKerels, $2.00 and $3.00 each. S. C. Rhode Island Reds and S. C. Brown Leghorns, eggs for hatching at all times. Our birds are winners. FOWLER & MASTERSON, Box 100, Duarte, Cal.

DAY-OLD CHICKS FROM MY PURE bred, carefully selected stock of S. C. White Leghorns, $1.00 per 10, $9.00 per 100. Eggs for hatching $1.00 per 15, $5.00 per 100. J. R. HEINRICH POULTRY YARDS, Arroyo Grande, Cal.

BUFF ORPINGTONS ONLY.—From fine mated pens including all of my prize winners, $2.50 per 13 eggs, 2nd pen $1.25, $7.50 per 100. Birds for breeding reasonable. H. ANDERSON, Fredensborg Ranch, Suisun, Cal. Mention this paper.

CORNISH FOWLS EXCLUSIVELY— The best for the table and for crossing. Beautiful and docile. Write for prices. Eggs $3.00 a setting. JOHN D. MERCER, 104 West First St., Los Angeles, Cal.

WHITE MINORCAS AT HALF PRICE. Owing to ill health I will sell out the balance of my beautiful young hens and roosters, in lots of not less than 10, at $1.25 per head. C. S. LANE, Santa Barbara, Cal.

MOORE'S WHITE WYANDOTTES.— Eggs for hatching from a laying strain of pure white blocky birds. $1.50, $2.00, $3.00 and $5.00 for 15 eggs. Fertility guaranteed. Write S. P. MOORE, 506 Casco St., Los Angeles, Cal.

WHITE MINORCAS (THOROUGHbred)—Eggs in season. Cockerels for sale. Also a few thoroughbred Houdans (cheap). L. V. PETERSON, Guerneville, Cal.

FOR SALE—MAMMOTH BRONZE Turkeys. Fine Eastern stock. Toms $6.00 each, hens $5.00; trio, one tom and two hens, $14.00. This is fine stock, none better. JOHN CARROLL, Victorville, Cal.

FOR SALE.—EGGS AND DAY-OLD chicks from R. I. Reds (Tompkin's Strain), S. C. and R. C. Black Minorcas (Northup Strain), White Minorcas. Spring stock sold. C. U. CHAMBERLIN, Los Gatos, Cal.

WHITE LEGHORNS.—CIRCULAR GIVing show record, description, prices, sent on application. Eggs by the setting or 1,000. C. B. CARRINGTON, Orchard Ave., Hayward, Cal.

FOR SALE.—PURE BARRED PLYmouth Rock roosters and pullets. Eggs for hatching. Very fine strain. Address R. B. SHERMAN, Newcastle, Cal.

IMPORTED MAMMOTH BRONZE TURkeys for sale. Are natural rangers, large boned, well marked, and beautiful plumage. Gobblers, $7.50; hens, $4.00. J. R. SNEAD, Dixon, Cal.

A FEW PURE BRED BRAHMA, Black Minorca and Rhode Island Red cockerels for sale. Apply to VINA RANCH, Vina, Cal.

FOR SALE—BLACK MINORCA COCKerels, Wheelers Strain, $2.50 each. Incubator chicks $12 per 100, eggs $1.50 per 15, $6.00 per 100. Mrs. A. F. FRESE, Box 456, Dixon, Cal.

ELEANORE MINORCA FARM—ROSE Comb Black Minorcas. Eggs in season. Club catalogue free. Route 1, Los Angeles, Cal.

FOR SALE.—BROWN LEGHORN eggs $5.00 per hundred. MRS. E. FORAN, Box 445, Visalia, Cal.

## SEED.

ONION SEED—THE AUSTRALIAN Brown is the onion for California, as it is the best keeper known. Our seed is the famous Maule Strain, 408 sacks grown this year from 1½ acres. We grow but one kind and guarantee them true to name. Price $1.25 per pound. Send orders to E. F. EDE, Kingsburg, Cal.

## HORTICULTURAL PRINTING.

THE KRUCKEBERG PRESS, 123 South Los Angeles St., Los Angeles, Cal., makes a specialty of Horticultural Printing and Engraving. Cuts and illustrations of all standard, economic and ornamental plants on hand and subject to the use of patrons without cost. Samples and estimates cheerfully furnished. Remember we design, write, engrave, bind and print; in brief, do the "whole thing," at no additional expense to the customer. Correspondence a pleasure; a personal visit a joy. Headquarters for catalogues and quadri-color printing.

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shoes combine style and wearing qualities to a degree that easily makes them the most popular, dressy and serviceable ladies' fine shoes obtainable, at a cost no greater than ordinary shoes. Your dealer will supply you; if not, write to us.

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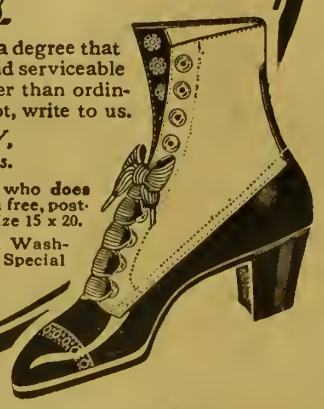

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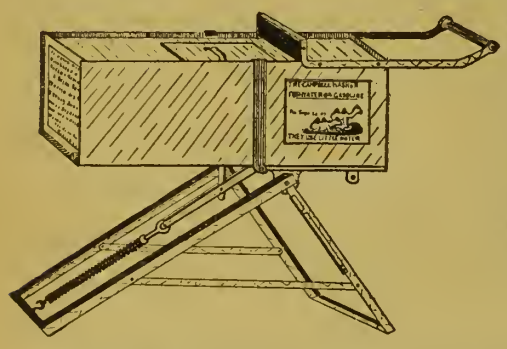

will pay for itself in three months. Will wash a blanket or linen handkerchief with equal ease and effect, fancy waists or lace curtains positively safe from injury when washed in this machine. The only machine that can be used for dry cleaning with gasoline. Suits of clothing can be dry cleaned with less than 1 gallon loss of gasoline. Easiest to operate and the most efficient washing machine ever offered to the public. The air and the suds, the slides and the thuds make this washer do easier and better work than any other. A thirty day free trial and guarantee from any imperfection. Made of galvanized iron, will not fall to pieces in hot weather, nor rust.

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# Household Department

## HOW THE KETTLE SANG.

I wish the kettle would sing again
Just as as it used to do—
I wish it would sing of a lion slain—
Of a pirate crew on the Spanish main—
Of a clipper ship on the sea way high,
With a cabin boy and the Boy was I—
Just as it used to do.

I wish the kettle could sing again,
Just as it used to do,
Of a little girl in a bonnet red,
Saved by a prince from a hydra head
That lurked in the corn that towered high,
And the girl was She and the Prince was I—
Just as it used to do.

I wish the kettle would sing again
Just as it used to do.
I wish it would sing to war's alarms,
The booming of cannon and clash of arms—
Of a blue-clad boy where the strife ran high,
With face to the steel and willing to die—
Just as it used to do.

I wish the kettle would sing again,
Just as it used to do.
The lyrics it crooned and the tales it told—
But the hearth is chill and the years are old,
The fancies it whispered have all taken wing,
And never again the kettle will sing
Just as it used to do!

—Buffalo News.

## THREE JEWELS.

RALPH WALDO EMERSON said concerning the law of the household: "Would we codify the laws that should reign in the households, and whose daily transgressions annoy and mortify us, and degrade our household life—we must learn to adorn every day with sacrifices. Good manners are made up of petty sacrifices. Temperance, courage, love are made up of the same jewels. Listen to every prompting of honor."

There can be no abiding happiness in the home unless this law of sacrifice and unselfishness holds good with every member of the family.

It will not do for the husband and father to yield his rights as head of the family or to deny himself indiscriminately of every comfort, that life for loved ones be made easy.

Neither should his sacrifices be accepted as a matter of course and he be regarded as a mere provider of necessaries and luxuries, or simply as one who holds the purse.

The wife ought to maintain the dignity of her posiiton always. Not by words so much as by action and manner.

Unremitting attention should be given to her husband's wishes and comfort in every way, and by retaining and practising all the little arts both in dress and manner used to draw the suitor, which are so often forgotten after marriage.

A man naturally likes to see his wife becomingly attired. She is his, you know; and it is a credit and a compliment to him that she is well dressed—a flattering commentary upon his judgment in selecting a wife.

As a mother she must not forget herself so entirely that in her self-abnegation she will fail to preserve not only her own selfrespect, but the love and respect of her husband and children.

It may often require a great effort for the tired housewife to keep herself always neat and tidy, but the exertion pays. The sensation of looking well, the struggle to throw light into the face and overcome languor, all act as an inspiration and a stimulant to her conversation so that her cheerfulness influences and rebounds upon the whole family, accompanying the husband to his daily toil and the children to their studies.

The poet Keats has sung: "A babe in the house is a well-spring of pleasure;" and another writer has said: "The world is safe as long as children are born into it." Yet the home can be made decidedly uncomfortable if children are allowed to monopolize all of a parent's attention to the exclusion of the rights of others, if they are permitted to accept every benefit elders are prompted to bestow without giving anything in return.

Therefore, from earliest infancy, in justice to the child, for the sake of his or her own interests, as life must develop either for good or evil, this divine law of sacrifice should be persistently instilled into the young mind.

These three jewels—temperance, courage, love—may be likened to the precious stone selected by watchmakers, on account of its hardness and resistance to wear, to be where the pivot turns in the socket.

Temperance to be used in the appropriation of other people's self-abnegation in order that self-respect and the respect of husband and children should be maintained.

Courage in the persistent regard for the rights of others, also in the giving up of one's own desires, especially where they conflict with the comfort of other members of the family; in the laying aside of and overlooking the hastily spoken word and the unwavering demand of parents that there be a constant regard for the general good of the whole household.

Love, the greatest of these three jewels, ought to be the mainspring that governs temperance and courage. It is the resisting power upon which all motives, deeds and actions must turn. Without love the home life must be like the worn ratchet wheel of a watch and no key of temperance or courage without the lubricating oil of love, will cause the wheels of domestic peace and happiness to go round.

Therefore, every individual in the family circle should listen to the promptings of honor and take a personal interest and pride in keeping these jewels as radiant gems in the home life.—Farm World.

## NEW YEAR RESOLUTIONS.

Take your choice or all of the following for your New Year resolutions.

* * *

Rest a little, play a little,
Every passing day;
Be too wise, dear friends, to think
Of slaving life away;
Rest will fit for better work,
And play will bring good cheer;
These things count for much, you'll find,
In our sojourn here.

* * *

"I will not worry."

"I will not be afraid."

"I will not give away to anger."

"I will not yield to envy, jealousy or hatred."

"I will be kind to every man, woman and child with whom I come in contact."

"I will be cheerful and hopeful."

"I will trust in God and bravely face the future."

* * *

I will watch for opportunities of 1910 and catch them as they come.

* * *

If I have faltered more or less
In my great task of happiness;
If I have moved among my race
And shown no glorious morning face;
If beams from happy human eyes
Have moved me not; if morning skies,
Books, and my food, and summer rain
Knocked on my sullen heart in vain,
Lord, Thy most pointed pleasure take
And stab my spirit broad awake.

—Robert Louis Stevenson.

* * *

I will live within my means—and then some—during the coming year.

* * *

I expect to pass through this life but once. If therefore there is any

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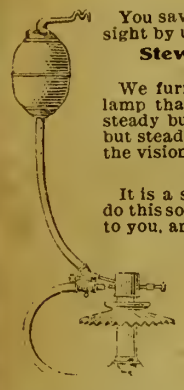

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kindness I can show, or any good that I can do to any fellow-being, let me do it now; let me not defer it or neglect it for I shall not pass this way again.—A. B. Hegeman.

* * *

Take a dash of water cold
And a little leaven of prayer,
A little bit of sunshine gold
Dissolved in the morning air;
Add to your meal some merriment
And a thought for kith and kin;
And then as a prime ingredient,
A plenty of work thrown in:
But spice it all with essence of love
And a little whiff of play:
Let a wise old book and a glance above
Complete a well spent day.

* * *

To keep my health! To do my work!
To live!
To see to it I grow and gain and give!
Never to look behind me for an hour!
To wait in weakness and to walk in power;
But always fronting onward to the light,
Always and always facing toward the right;
Robbed, starved, defeated, fallen wide astray—
On, with what strength I have! Back to the way!
—Charlotte Perkins Stetson.

* * *

There is an idea abroad among moral people that they should make their neighbors good. One person I have to make good: myself. But my duty to my neighbor is much more nearly expressed by saying that I have to make him happy—if I may.—Robert Louis Stevenson.

Resolved, to live with all my might while I do live; Resolved, never to lose one moment of time, but improve it in the most profitable way I possibly can; Resolved, never to do anything which I should despise or think meanly of in another; Resolved, never to do anything out of revenge; Resolved, never to do anything which I shoud be afraid to do if it were the last hour of my life.—Jonathan Edwards.

* * *

If there be some weaker one,
Give me strength to help him on;
If a blinder soul there be,
Let me guide him nearer thee.
Make my mortal dreams come true
With the work I fain would do:
Clothe with life the weak intent,
Let me be the thing I meant;
Let me find in Thy employ
Peace that dearer is than joy;
Out of self to love be led,
And to heaven acclimated,
Until all things sweet and good
Seem my nature's habitude.
John G. Whittier.

* * *

I will renew my subscription to the California Cultivator and as it is worth much more than the dollar per year which I pay in cash, I will occasionally send in a helpful hint of some method of work, or some little economical practice, or some table or cooking suggestion which will help others to enjoy the paper more.

This last of the above resolutions I promise sacredly to keep.

### A NARSTY LOOK.

Two London cabbies were glaring at each other.

"Aw, wot's the matter with you?" demanded one.

"Nothink's the matter with me, you bloomin' idiot!"

"You gave me a narsty look," persisted the first.

"Me! Why, you certainly 'ave a narsty look, but I didn't give it to you, so 'elp me!"

---

"Now, here is a piece of goods," said the voluble saleslady, "that speaks for itself." "That's all right," rejoined the Longmont man who was doing a shopping stunt for his better half. "Now, if you will kindly keep quiet for a few minutes and give the goods an opportunity to speak, I'll be much obliged."

---

"Father," said little Rollo, "what is an egotist?"

"An egotist, my son, is a burnt match what thinks it was the whole fireworks."—Washington "Star."

"See the shadow the book throws across my waist? It's like the shadow caused by the metal burner or tank of your light—with this difference, I can take away the book and get direct, shadowless light. See the point?"

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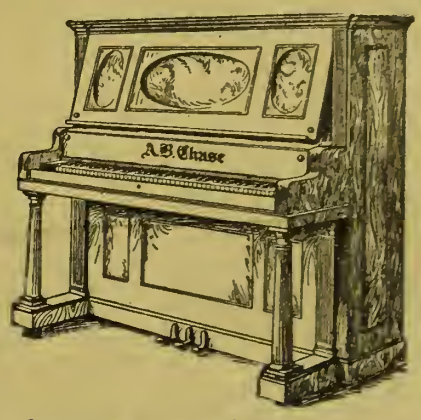


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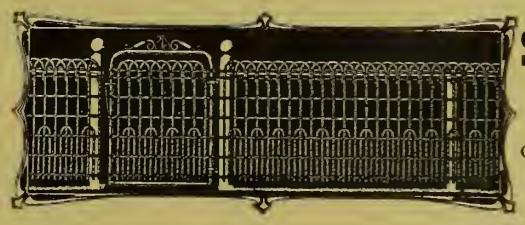

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Holiday eggs sold in Seattle at 48 cents and turkeys at 33 cents.

## Business Notes

### BUILT BIG BUSINESS.

Most of us see only the present. We see success only as we are brought face to face with it today. How many of us ever look back for the cause, the vital things that make succcess possible?

That the key to real business success is often based on a sound principle, rather than money, is best illustrated by the reproduction of the following biographical sketch of Frederick Mayer, founder of the F. Mayer Boot & Shoe Company, reproduced from an issue of the German American National Alliance:

Frederick Mayer, founder of the factories at Milwaukee and Seattle now bearing his name, came to this country from Nienstein, Hessen Darmstadt, in May, 1851, and immediately proceeded to Milwaukee, Wisconsin, where he entered the employ of R. Suhm as a Journeyman shoemaker.

The spirit that prompted him to seek his fortune in the new world was soon responsible for another change, and in 1852, a year later, he embarked in business on his own accord, making boots and shoes to order as only a German apprenticed artisan knows how. Subsequently a stock of goods was carried and a retail business conducted until 1880, when the manufacture of shoes was engaged in at wholesale to the trade.

The business succeeded from the beginning and it was here that the staid qualities of German honesty and persistency, together with the knowledge of shoe making gained by a strict German apprenticeship, came to the aid of a young business destined to become a factor in the production of shoes in America, for it soon became known that the shoes manufactured by F. Mayer had qualities not ordinarily found in shoes, and business began to expand.

In 1890 the business was well established, the foundation firmly laid and the policy well determined. From that time on the growth was more rapid. Factories, additions, more factories and more additions were added, until now the plant occupies a substantial group of buildings in Milwaukee and Seattle. The capacity of the present Mayer factories at Milwaukee and Seattle is 9,000 pair per day, giving employment to an army of people, paying annually over six hundred thousand dollars in wages, and employing sixty-five salesmen who travel 24 states in the interest of Mayer shoes.

Frederick Mayer died on March 16, 1893, after building up a large and successful business. He was succeeded by his sons, George P. Mayer, Fred J. Mayer and Adam J. Mayer, who, by rigidly maintaining the policy of the founder, have succeeded in bringing the business up to its present magnitude, where it stands as a monument of German thrift and industry. Frederick Mayer was a man of strong character and amiable disposition. He believed in a square deal for everybody. He was popular and had hosts of friends, especially among the early settlers of Milwaukee, who admired him for the qualities that were responsible for his success. He was a man of simple tastes, who loved his home and believed in the strict observances of his duty to God and man. He left behind him a striking example of what has, in at least one instance, been contributed by a German to the welfare and prosperity of this great country.

The leading brands manufactured by the F. Mayer Boot & Shoe Co. are: "Honorbilt," for men; "Leading Lady" Shoes, "Martha Washington" Comfort Shoes, "Yerma" Cushion Shoes, "Special Merit" School Shoes.

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### NEW CATALOG.

The Black Minorca Club of California has issued a very attractive catalog. In this catalog are some good articles on Black Minorcas setting forth their good qualities. There are a number of illustrations of birds, also a list of the members. If you want one of these catalogs, write the Secretary, M. E. Brown, Box 100 R. D. 1, Los Angeles, Cal.

The salient article of the January Century is easily Mr. Walter Camp's chatty discussion of "Personality in Football," in which he asks and answers the pertinent question, "Are our boys trained to set up a false standard of hero-worship?" and shows at length what contributions to the real progress of the game have been made by such players and coaches as Lee McClung, Arthur Poe, John De Witt, George Chadwick, Tipton of West Point, Daly of Harvard, "and a host of others." It is a valuable and lively presentation of one of the absorbing questions of the day; and besides the photograph shown there are reprodutions in tint of three stirring drawings by Leyendecker.

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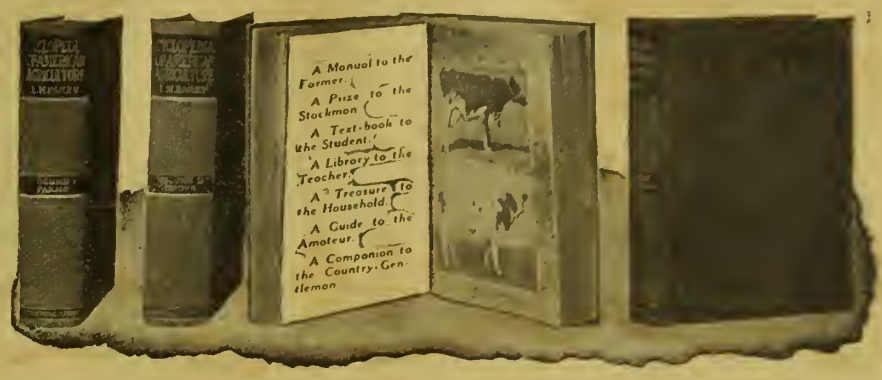
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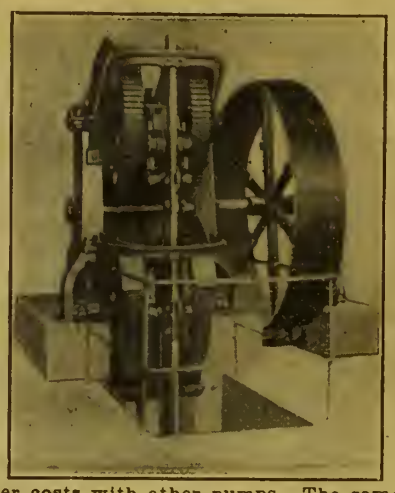

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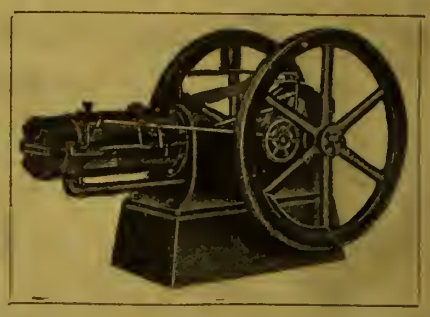

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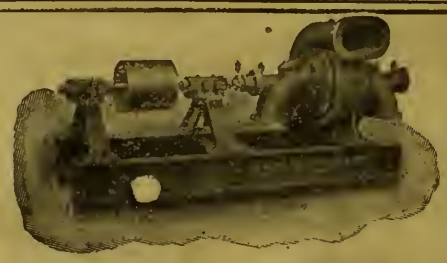

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